MARINE CORPS

Gazette

OCTOBER, 1946 30c

TRUK WAS A PHONY • OCCUPATION OF KYUSHU
THE ATOM BOMB COMES INTO FOCUS • SEA-GOING TRUCK
MARINES IN THE PACIFIC WAR • AMPHIBIOUS TACTICS

THIS MONTH'S COVER

THAT Truk, vaunted bastion of the Jap South Seas empire, was only an imposing shell hiding a rotten core is amply demonstrated by Gilbert Cant's *Truk Was a Phony* on page 10. The cover, illustrating the evacuation of the tired and sick garrison after the surrender, is by TSgt John DeGrasse, versatile *Leatherneck* staff artist, who compounds his accurate drawings from details extracted from a mass of photographs.

THE MARINE CORPS GAZETTE

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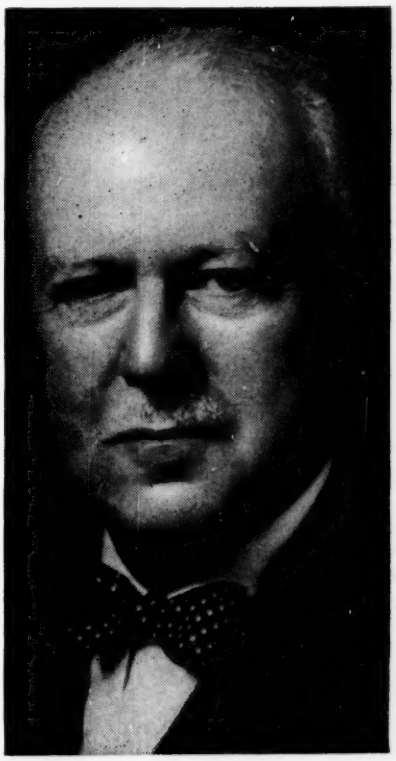

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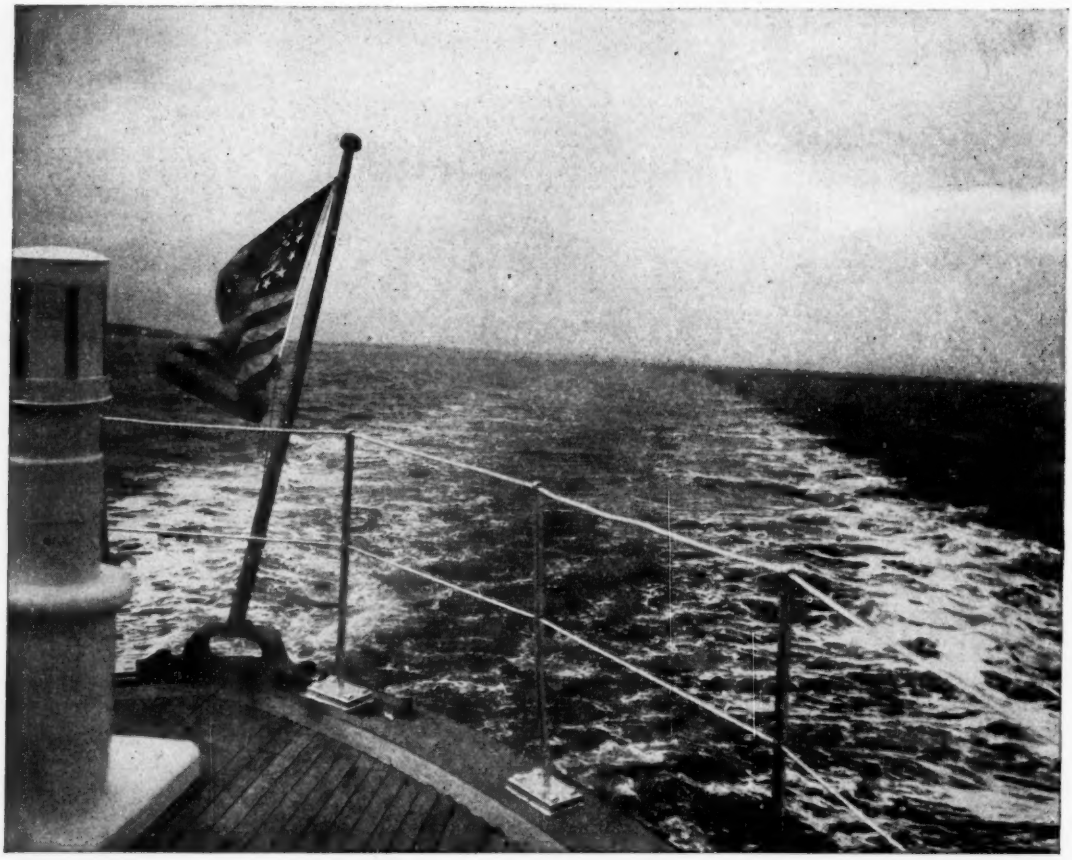

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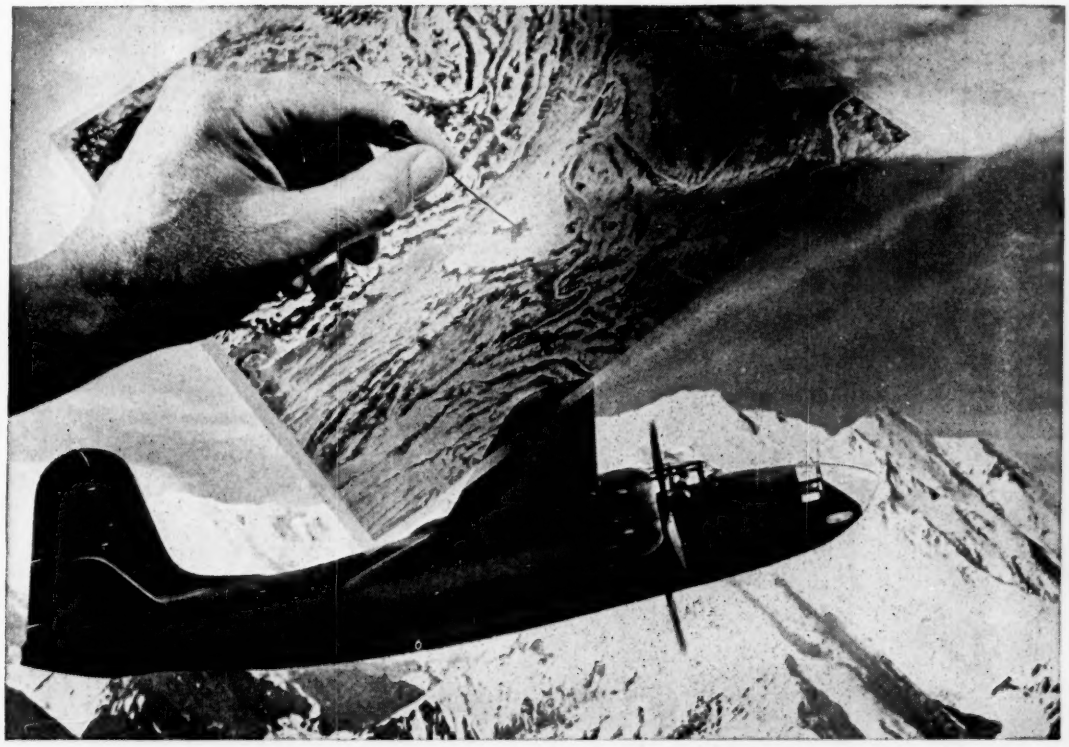

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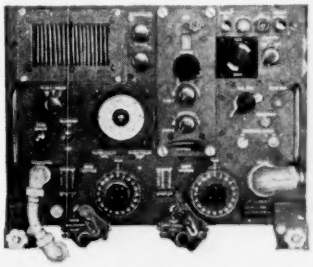

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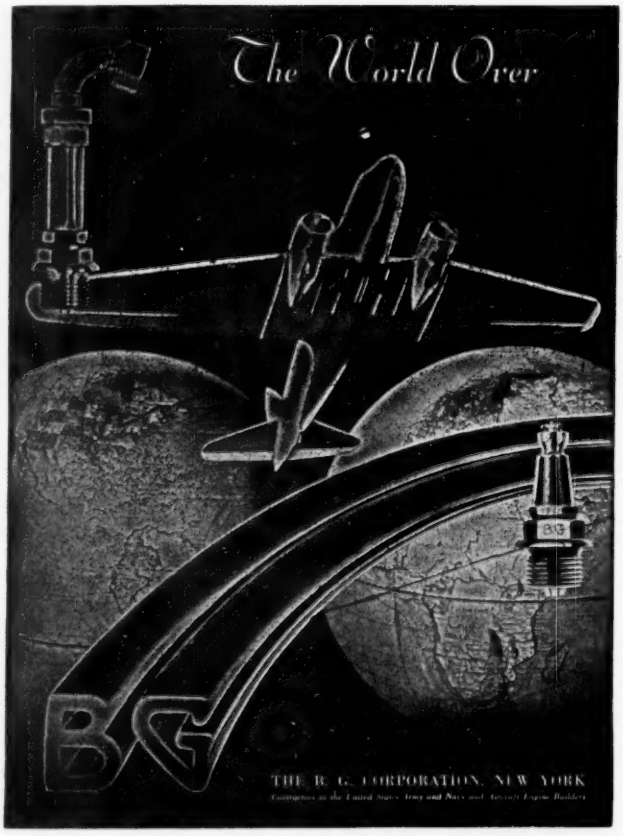
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PASSING IN REVIEW

BOOKS OF INTEREST TO MARINE READERS

The War at Sea . . .

NIGHT WORK—Fletcher Pratt, 267 pages, illustrated. New York: Henry Holt and Company. $3.00

FLEET AGAINST JAPAN—Fletcher Pratt, 263 pages, illustrated. New York: Harper and brothers. $3.00

Night Work is the story of RearAdm Merrill's Task Force 39 in the Solomons area in 1943. The cruisers and destroyers of that task force performed a vital mission during that critical year and the details of their hitherto buried accomplishments are brought to some light by the flowing pen of Fletcher Pratt.

Personalities, after all, offer the most interesting possibilities for the writer and Mr Pratt goes the limit in his investigations of the personalities in Task Force 39. Mostly, the book tells of Adm Merrill's prowess as a leader, organizer and fighter. But there will also be found tales concerning Capt Arleigh Burke, the noted "30 knot" destroyer man; RearAdm Ainsworth, one of the better cruiser-destroyer operators; Adm Halsey (who needs no special identification); and lastly, Robert Montgomery, whose chief claim to fame lies in his movie acting ability, but who at the same time was the inspiration for the nickname "Hollywood Squadron," that was bestowed upon Task Force 39. (Montgomery was attached to and serving on board the light cruiser *Columbia.*) A scattering mention of other people is made in sufficient quantity to make the overall book most readable.

Mr Pratt places Japanese and American communiques at strategic spots throughout his book in order to demonstrate the panic that gripped the Japanese as they slowly came to realize that Nippon was losing the battle for the Solomons. A comparison between the Japanese communiques and the actual truth gives cause for reflection.

Night Work pays particular tribute to the cooperation between land, sea and air forces and brings out many times the interdependence of the services upon each other. The "Slot" operations, as the naval campaign in the Solomons came to be called, greatly influenced the success of American forces on land. The assistance from aircraft in ridding the area of the Japanese, in conjunction with the naval and land efforts, is aptly described by Mr Pratt.

Night Work is a good book. It deals with a phase of the war that cannot be called a minor one. The manner in which Mr Pratt unfolds the story of Task Force 39, as a contributing link in the chain of successes against Japan, makes this book a must for every naval or military officer and certainly a recommended book for the layman.

Fleet Against Japan is an account of the offensive period of the operations of the U. S. Navy. It is not complete, it could not be in the size of the volume, but it amply covers the whys and wherefores of our overwhelming victory against Japan. Men and ships were responsible for the success of the naval offensive operations. Mr Pratt analyzes a sufficient number of men and ships to show their individuality and collectively indomitable will to win and gives actual examples of their accomplishment by the examples set by real people and actual ships. The names chosen are familiar to all, but the author goes into the characters and habits of the men concerned in order to determine why and how they turned in their invariably superb performance of duty. RearAdm Callaghan was chosen as a typical naval officer who not only gave his life for his country, but who also exhibited the qualities of manhood, leadership, and fearlessness that completely confounded the Japanese blood curdling fanaticism that was considered by them to be the sure key to success. FleetAdm Nimitz, the highest of the high naval command in the Pacific, was also chosen by the author for a detailed explanation of personal virtues that had much to do with the winning of the Pacific war. The calm and logical reasoning of the Admiral, along with his vivid imagination and self-readiness for defeating the Japanese, influenced the course of the war in the Pacific. Mr Pratt gives us an inner view of why and how the Admiral came to be "the man" for solving the Pacific dilemma.

Fleet Against Japan then considers the "innards" of the ships as the next important contributors to the scheme of effective action. The battleship *Washington* and the heavy cruiser *Salt Lake City* are given exhaustive treatment and the parts that they played in the war are completely described.

After a discourse on men and ships, Mr Pratt proceeds to unfold the story of the Aleutians, the naval air action of June 1944 to the westward of Saipan (the Turkey Shoot), and a brief ac-

Our Navy at War . . .

Fletcher Pratt's

FLEET AGAINST JAPAN

AND

NIGHT WORK

Fletcher Pratt, well-known writer on military and naval affairs whose new book on the Marines in World War II is currently running serially in the GAZETTE, has written many authoritative books on which these two are among the latest. They are worthy of a place on every military bookshelf.

Fleet Against Japan is a brief all-over picture of the operations of the U. S. Navy in the Pacific covering the whys and wherefores of our overwhelming victory against the Japanese fleet.

Night Work is the battle narrative of Task Force 39 in action in the Solomons Area in 1943. The hitherto neglected story of a vital mission during a critical year.

Both Illustrated

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PASSING IN REVIEW

Continued

count of the series of important operations that culminated in the end of the Japanese fleet. Throughout these pages the author continues to stress the part played by men and ships.

Fleet Against Japan is an excellent book and is written in a fascinating and most attractive style. The book will be a joy to the military or naval reader and a pleasure to the civilian. The sketches that appear in the book are well drawn and are accurate. The photographic illustrations are well chosen and make the volume complete as regards the author's intended purpose and scope.

Fletcher Pratt is a most prolific author, but is a very capable one. His contributions to naval history are outstanding and his interest in the U. S. Navy is most gratifying. His remarks on naval matters do not come from second hand sources since Mr Pratt has a standard policy of seeking out the participants of described engagements and of draining them of all readable information.

IEMc

High Adventure . . .

LORD HORNBLOWER—C. S. Forester, 322 pages. Boston: Little, Brown and Company, $2.50.

This is the fifth and latest Hornblower novel and in it he concludes his private war with Napoleon. Whether, with Bonaparte safely installed on St. Helena, this means the series concerning the doughty commodore is over or not, only time and Mr. Forester can tell. Most lovers of lusty sea adventures will hope not.

In this last, short, and fast-paced book Horatio Hornblower, newly invested as a Knight of the Most Honourable Order of the Bath, sets forth to deal with a mutinous ship and crew. Naturally he turns the mutiny to the advantage of the King and himself. With the help of a small fleet and a detachment of 300 marines he captures the port of Le Havre in a uniquely bloodless amphibious operation. Becoming governor of the city he reintroduces the Bourbons to France. He undoubtedly would have taken Paris as well if history didn't dictate that Marshal Blucher must arrive there first. For his efforts Hornblower is upped a notch in the British peerage.

During the lull before Napoleon's return from Elba, Horatio and Lady Barbara, his wife, have a marital tiff and she goes off to Vienna to hostess for her brother, the Duke of Wellington (who, says history, did rather more than even Lord Hornblower to oust the little Corsican).

While she is thus engaged, Hornblower vacations in France, visiting the Count de Gracay and his daughter-in-law, Marie, whom readers will recall as Hornblower's lush mistress in earlier adventures. While Hornblower dallies amorously with Marie, Napoleon escapes from Elba. Hornblower and the de Gracays organize a guerrilla band. To tell more would be to tell too much of the story.

Cecil Scott Forester was born in Cairo, Egypt, in 1899. He fought through World War I as an infantryman, later was a foreign correspondent for the *London Times* and has lived in many places. Probably the most popular living writer of historical sea stories, he served in the British Ministry of Information during World War II. While recovering from an illness he wrote *Commodore Hornblower* which was the Book of the Month selection for June 1945. *Lord Hornblower* is the choice of the Literary Guild for October. EHK

The Army Way . . .

OMAHA BEACHHEAD—Historical Division, U. S. War Department. 167 pages, illustrated, maps. $1.50.

Omaha Beachhead is one of the American Forces in Action Series published by the War Department Historical Division primarily for the information and edification of U. S. Army men wounded in action. The series attempts to show how the small units contributed to the overall success of various U. S. Army operations. *Omaha Beachhead* is one of the best of this series.

Actually it is a well written and graphically illustrated special action report covering the landings on Omaha Beach and subsequent advances inland of the 1st, 2d, and 29th Infantry Divisions of the Vth Corps during the period 6-13 June, 1944.

During this month of June, in 1944, the bulk of the FMF was concerned with mounting and executing the invasious of the Marianas Islands, half a world away. Few marines had time to follow the developments of the gigantic cross-channel invasion which broke through the crust of German coastal defenses and permitted Gen Eisenhower to launch his mighty forces on the continent of Europe.

Because of the number of allied forces involved in the Normandy invasions, fighting men in the Pacific tended to picture the landings as being on such a vast scale as to be entirely different in nature from those being carried out in the Pacific war. Such was not the case.

American amphibious assault forces landed on two beaches: "Utah" and "Omaha," the larger being only 7,000 yards long. The assault landing was made with two reinforced regiments of the 1st Infantry Division abreast.

It is the story of these regiments and those that followed them across Omaha Beach that is so ably handled in this publication. A great deal of effort has been exerted to collect and correlate the reports and actions of platoons, companies, and battalions as they waded across the mined and obstructed beaches, and fought their way around and through the German beach defenses. It follows them as they try to get past the devastating fire from Nazi strong points guarding the exits from the beaches and as they maneuvered inland through hedgerows and villages to their objectives.

Excellent photographs of beaches, terrain, and German installations, plus a very complete series of 26 colored operation and situation maps gives the reader a detailed picture of the operation as it develops.

Omaha Beachhead should be of considerable academic interest to the Marine military student. The detailed plans and maps provided offer suitable material for study and critique by officers whose experience was confined to the Pacific war and the Japanese enemy.

The Normandy landings opened the gateway to victory in the European theatre and any lessons learned there must certainly be counted as we compile our knowledge and experiences of the recent war.

JAD Jr

Lord Hornblower

C. S. Forester

This is the fifth and perhaps last Hornblower novel. Here the doughty commodore concludes his private war with Napoleon and rises another step in the British peerage. Included is the story of how, with 300 marines and an amphibious operation, he took the French port of Le Havre.

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OCTOBER 1946

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Picture credits: All pictures official Army, Navy, or Marine photos unless otherwise credited.

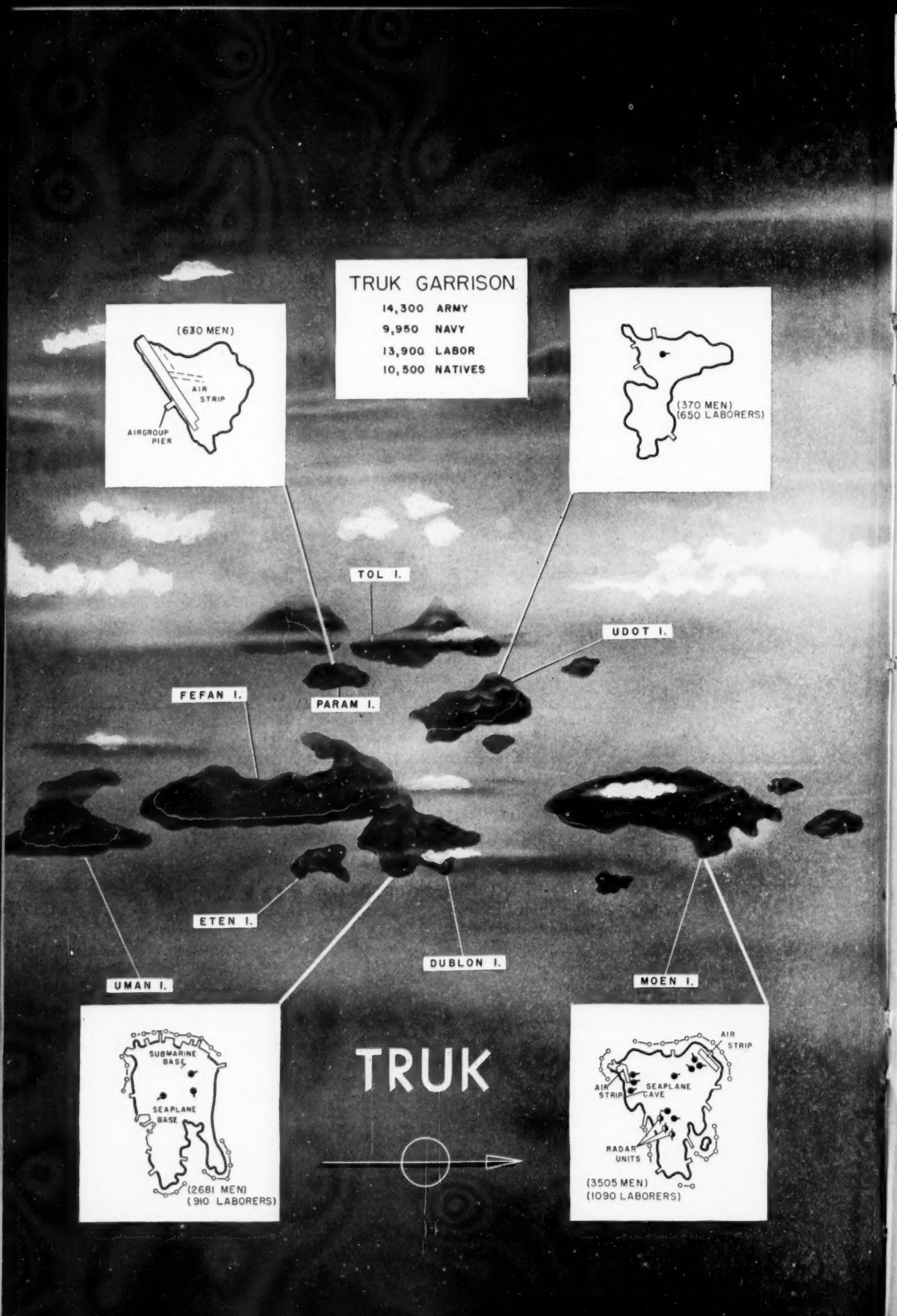
Among Our Authors

GILBERT CANT, whose *Truk Was a Phony* on page 10 will be something of a revelation to most Marine readers, drew his conclusions both from his own observations in the area and the findings of the U. S. Strategic Bombing Survey. Now the Army & Navy editor of *Time*, he was formerly the war editor of the *New York Post*, and has authored *The War at Sea*, *America's Navy in World War II*, and *The Great Pacific Victory*. He is veteran of frequent trips to the Pacific area, both during and subsequent to the war.

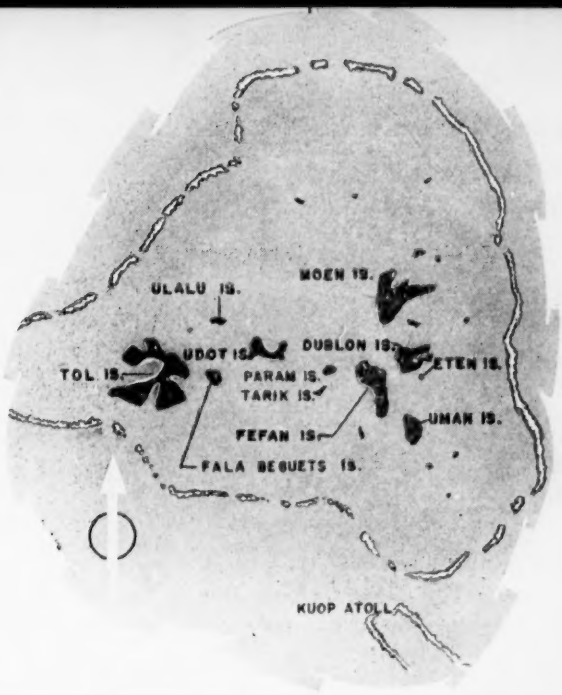
2D LT RICHARD S. HODGSON was the Marine Corps Public Information officer assigned to the Bikini A-bomb tests. It will be a long time before the tests are fully evaluated, but his *The Atom Bomb Comes into Focus* on page 22 gives some indication of the changes facing amphibious fighters. Lt Hodgson previewed the tests in the July GAZETTE with *The Atomic Bomb Tests and the Marine Corps*.

CAPT MARK TUBAN is now a Ford dealer in Mountain View, California, a not too illogical digression from his chores as motor transport officer with the V 'Phib Corps. He served overseas from December 1943 until August 1945 and nursed the Dukws from the day the Marines started using the vehicle in the Pacific. His *Sea-Going Truck* is on page 27.

LT COL MICHAEL S. CURRIN sums up the occupation duty of the 2d MarDiv in Kyushu on page 17. A marine since 1928, he was commissioned in 1935. Raider operations in New Georgia and duty as executive officer of the Command and Staff School, Quantico, preceded his assignment to the 2d Marine Division.


TRUK GARRISON
14,300 ARMY
9,950 NAVY
13,900 LABOR
10,500 NATIVES
(630 MEN)
AIR STRIP
AIRGROUP PIER
(370 MEN)
(650 LABORERS)
TOL I.
UDOT I.
FEFAN I.
PARAM I.
ETEN I.
DUBLON I.
UMAN I.
MOEN I.
SUBMARINE BASE
SEAPLANE BASE
(2681 MEN)
(910 LABORERS)
TRUK
AIR STRIP
AIR STRIP
SEAPLANE CAVE
RADAR UNITS
(3505 MEN)
(1090 LABORERS)

TRUK WAS A PHONY



WHEN THE carrier task forces of the U.S. Fifth Fleet were ordered to cover the invasion of Eniwetok by attacking Truk in February 1944 many courageous fighting men were frankly afraid. It was not that they were unaccustomed to tackling superior Japanese forces. The trouble was that Truk, besides its tangible defense, had a protective aura of mystery: it was a bogy, a bugaboo. Comdr Philip Torrey said: "My first instinct was to jump overboard."

If this was a measure of the success of the Japanese propaganda campaign to keep Americans scared of Truk, it was also a measure of American capacity for self-deception. For Truk was a phony. The Japanese were able to manufacture the myth of its impregnability only because they excluded foreign military observers for a quarter of a century. The last of these to see Truk was Col Earl Ellis, USMC—and he died, probably at the hands of the Japanese, while on an investigation of the Caroline Islands. From then until 30 August 1945, when Marine BrigGen Leo D. Hermle, arrived aboard a destroyer escort to arrange for acceptance of the surrender, no American military man had seen Truk except through a hail of steel. Much fantastic history had been compressed into the intervening years.

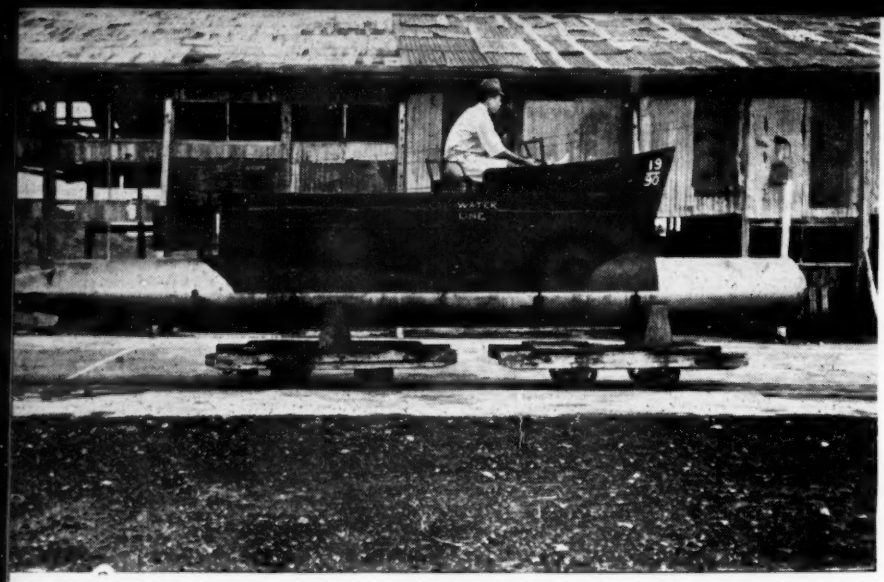
By Gilbert Cant
Maps by Sgt Svend Andersen

Contrary to popular suspicion, the Japanese did not violate the provisions of their Class C mandate by fortifying the islands while the Empire was a member of the League of Nations—until 1935. It is true that the roadstead between Dublon and Eten islands had been selected earlier as a fleet anchorage, and it was used during the annual cruise of the Combined Fleet. But no facilities existed for servicing the ships. Japanese admirals got no more service from Truk in those days than did ViceAdm George D. Murray, USN, when he took the surrender aboard the *USS Portland* on 2 September 1945.

In the weeks immediately following the surrender, American forces were too busy to occupy all the surrendered positions. At the end of September, the Japanese commanders at Truk sent an appeal for food. Thus it was that the first Americans to set foot on Truk were on a humanitarian mission. On 3 October, BrigGen Robert Blake, USMC, arrived on the cruiser *Columbia* and made a three-day inspection of the damage wrought by U.S. air forces at Truk. He found that the Japanese were indeed starving. Gen Blake ordered 150 tons of emergency foods shipped in immediately. Nevertheless many Japanese had been so weakened by malnutrition that hundreds died after the surrender.

Also on a relief mission was the next Marine party to reach Truk. LtCol Lyman D. Spurlock arrived 13 October to direct the movement of Japanese ships evacuating the garrison from nearby Enderby Island. Spurlock returned with an evacuation ship to Truk, and filled the hundred remaining berths with old men, women and sick children, and the most acute cases of malnutrition. He stayed at Truk, aboard the *USS Booth* until 29 October, when he was relieved Maj Robert J. Picardi, who in turn stayed until the first occupation force arrived 24 November aboard the *USS Neville.* This time Gen Blake had with him the 2d Bn, 21st Marines, LtCol Spurlock commanding.

One regiment of marines could have captured Truk at the beginning of the war



Among Truk's unused arsenal were suicide submarines like this contraption improvised from a standard Japanese naval torpedo.

These two small caverns were cut into Udot Island to shelter suicide boats.

Protected from the air this 12 cm AA gun was mounted for coast defense.

About this time, also there arrived the *USS Miami*, bearing Naval and Air Field Team No. 3 of of the U.S. Strategic Bombing Survey, headed by RearAdm Calvin T. Durgin, USN. In methodical inspections of the terrain, of Japanese installations and equipment, and in painstaking interrogation of the surrendered commanders, Adm Durgin's team reconstructed the rise and fall of Truk—its rise to international repute as a supposed "Gibraltar of the Pacific," and its fall to a battered, almost defenseless, starving outpost left to "wither on the vine" in the great American leap-frog offensive across the Pacific. The record was so plain that the conclusions were inescapable. Truk has been a masterpiece of deception.

If the United States had had a single regiment of marines in the Pacific trained and equipped for amphibious operations, ready to embark the day after Pearl Harbor was attacked, Truk could have been captured—if Truk had had to depend for its resistance upon its own strength alone. Actually, of course, the Japanese fleet would have interposed itself; with its temporary superiority, it then dominated the Pacific. But if this fleet could have been contained, as it was supposed to be, by the battle force of the Pacific Fleet, the legendary bastion of Truk could not have long withstood an American assault. Two American carriers would have been ample air support; cruisers could have given all the fire support needed.

The fact that no such attack was even contemplated by the American command is eloquent testimony to the wisdom of the choice which the Jap high command had made; as between fortifying myriad fixed positions and preparing a highly mobile force of immense offensive power, the enemy had chosen the latter. The meager resources of the Japanese arsenal had been lavished on the battle fleet. For the short term, this decision proved brilliantly successful.

On 7 December 1941, Truk had only six coastal guns, of 5- and 6-inch calibers, and of ancient models, dating from 1895. They were dispersed on Tol, Moen, and Uman islands. There were only four modern, dual purpose 5-inch guns, in twin mounts on Dublon and Eten islands. There were eleven 3-inch guns on islets around the 150-mile perimeter reef. There were two 3-inch antiaircraft guns, with a small number of 13 and 25 mm machine guns, on Fefan and

The debris-littered coral beaches at Truk were strangely similar to other places where marines had made more bloody landings in their westward march.

Eten. This was the armament allotted to the Fourth Base Force, charged with maintaining a headquarters for the Fourth Fleet. To man these positions, ViceAdm Hitoshi Kobayashi had 850 men.

Again contrary to popular belief, Truk had no air strength or even any facilities for basing air forces. Construction of the first airfield on the northwest side of Moen Island (the one which, improved by Seabees, is now being used by U.S. occupation forces), had begun only a month before the attack on Pearl Harbor. There was no radar. There were a few mines. There were no caves for deep shelter.

Except for the accident of geography—its magnificent protective reef and the scattering of mountain-top islands within the lagoon—Truk was in no better defensive attitude at the outbreak of war than Wake Island. But it had a reputation which was worth two divisions of battleships and an amphibious corps.

Kobayashi was frantic, and pleaded for both men and material. He got men—Japan had plenty. Gradually, his labor troops (*Gunzoku*) were built up to a strength of 10,000. But he got virtually no material—Japan was short of that, and whatever was available was shipped through Truk to the new outposts of the expanded, ephemeral Empire—New Guinea, Rabaul and Bougainville. It was not until April 1942, when the vulnerability of islands positions to American carrier attack had already been shown, that Kobayashi received his first modest increment of fighting men: 610 of them.

In July, the Combined Fleet under the aggressive command of Adm Isoroku Yamamoto began to operate from Truk. By this time, the number of airfields was being increased to four. There were two seaplane bases. But no American fleet commander would have been satisfied with the poverty-stricken layout of Truk's naval base. Six tanks, holding 49,000 tons of fuel oil, were installed, but there were no modern facilities to pump the oil into the ships' bunkers. Tank barges had to load the oil at a single pier, and be towed out to the ships in the roadstead. There were few piers of any size, and not enough cranes. There were no major repair facilities. The skimpy repair yards never employed more than a thousand men, and the largest ship which could be accommodated in the lone dry-dock was of 2,500 tons, limiting its usefulness to destroyers and smaller craft.

Truk continued to suffer from materiel starvation until the American Central Pacific offensive was launched by the Fifth Fleet and the 2d Marine Division at Tarawa in November 1943. Then at last Tokyo recognized that something must be done to strengthen the island fortresses in the Marshalls, Carolines, and Marianas. But it was already too late to do the job, except at prohibitive cost: American submarines were by now sinking almost half the transports dispatched to Truk with the equipment so urgently needed there.

The 52nd Division was hastily organized as part of the 31st Army at Saipan, and half of it was sent to Truk in January 1944. This was the

A Jap soldier leaves Truk for home.

Japanese Army's first appearance in what had been a purely naval stronghold. At the same time, the Imperial Navy succeeded in getting a substantial number of guns through the submarine blockade. Other guns were taken from damaged ships which had limped into the lagoon. The exact number obtained at this period is uncertain, but there must have been a score or more of coast defense guns of 120, 150, and 200 mm. Eighty 25 mm and 23 120 mm antiaircraft guns were emplaced.

On paper, this looked like a formidable defensive arsenal. But it was dangerously weakened by two important factors, the first of which was a divided command. Kobayashi was responsible for defense against attack from the sea and from the air. For the latter, he was given operational control of the Army's antiaircraft batteries. The Army was responsible for defense against Allied landings, and the line was drawn 2,000 meters from the shore, this distance being chosen because it approximated the effective range of the Army's machine gun defenses along the beaches. The Army forces were under 31st Army (actually a corps) headquarters on Saipan which in turn came under the Eastern Army Headquarters in Japan.

There was a tricky provision by which the Commander-in-Chief of the Combined Fleet could assume authority over Army forces on the Navy's islands but this was far from giving unified command at Truk to a Navy officer on the spot. Even within the Navy there was a fatal division: the air defense of Truk was entrusted to the 26th Air Flotilla, which was not under Kobayashi but under ViceAdm Sakamaki at Palau.

On 4 February 1944, two Marine Corps photo-reconnaissance Liberators from VMD 254 flew over Truk at a height of about 25,000 feet and obtained photographs of a great Japanese naval conectnration in the lagoon. It was a fine piece of reconnaissance, but it backfired against the Pacific Ocean Areas commander, Adm Chester W. Nimitz. For Adm Mineichi Koga, cautious successor to the bullheaded Yamamoto, knew that the main striking force of his Combined Fleet must have been detected. It had just returned to Truk from a sortie out to Eniwetok: it had not pressed on to Kwajalein where it would have been brought to engagement by the Fifth Fleet under Adm Raymond A. Spruance, because Koga knew that he was outclassed. Back at Truk, he was unhappy enough, with a shortage of oil, a shortage of shells, and even a shortage of water. The realization that he had been scouted by the Liberators completed his dejection and his decision to get out of Truk. It took six days to fuel and water most of the ships. On 10 February, flying his flag in the super-battleship *Mushashi*, Koga led the Combined Fleet out of Truk for the last time. All that was left was a handful of light cruisers, destroyers, and assorted transports and oilers—for which there was not enough fuel available for a long run.

Truk stayed on the alert until 16 February. Then, lulled by the lapse of time into a false sense of security, Kobayashi reverted to his normal condition of unreadiness. The very next day Hellcats from Adm (then RearAdm) Marc A. Mitscher's Task Force 58 were detected by Japanese radar on Moen and Uman islands. There were 41 Zeroes available for defense, but the commanding officer of the 26th Air Flotilla was not at his headquarters; nobody else had authority to order the planes into the air, and he could not get through to his operations officer by phone. Some of the fighter pilots scrambled anyway, and these were in the air when the American fighter sweep began. Others were still taking off. The manner in which Truk was "Pearl Harbored" that day is now history. Antiaircraft artillery looked impressive but was largely ineffective. The greater part of the toll was taken by automatic

weapons up to 25 mm against planes which were strafing, dive bombing, or glide bombing.

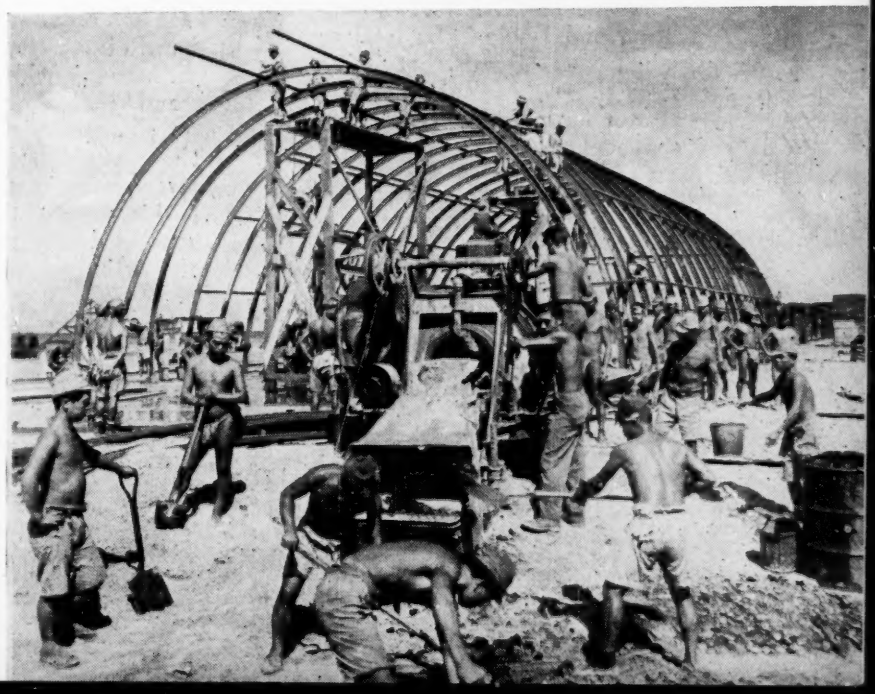
The Japanese were amazingly quick to reorganize after this failure. Kobayashi had to take the rap, although he was not entirely to blame. By 23 February he had been relieved by ViceAdm Chuichi Hara, a dark, squat man, built like a wrestler, with a prison haircut and with gold teeth installed like running lights on the port and starboard sides of his upper bridge. He found an able assistant in RearAdm Michio Sumikawa, who served much of the time as Hara's chief of staff.

A Korean "comfort girl" has her baggage inspected before being embarked on an American ship bound for her homeland.

Of the two factors which weakened Truk defensively, the first was divided command and Hara could do nothing about this. But the second was the faultiness of Kobayashi's dispositions of his guns. Hara and Sumikawa immediately held a series of staff conferences at which they decided what to do about this. Kobayashi had distributed his coast defense guns around the islets on the outer reef. Spread out thinly around this perimeter, the guns were almost incapable of mutual support. Moreover there was nothing heavier than 8-inch with a range of 18,000 yards: a battle force could have steamed around the Truk group, knocking out coastal guns one by one with 16-inch gunfire from 30,000 yards or more, and the Japanese would have been unable to fire a single effective shot in reply. Heavy cruisers mounting more modern guns than the ancient Japanese rifles could have done almost as well.

Hara decided that the guns on the reef islets were worse than useless. He determined to reemplace them on the inner, mountain-top islets, where they would be capable of far more mutual support, and where they could command the entrances to the lagoon. Of course, his guns would still be subject to air bombing, so he decided to site them in deep caves, with only the muzzles projecting, although this seriously limited their elevation and traverse. This work began in June. It was extremely difficult with the limited mechanical means and nothing but crude trails up the steep sides of the hills. One cannot examine the four 20cm cruiser-type guns emplaced on the eastern peninsula of Moen, hundreds of feet above sea level, without a sense of admiration for the hundreds of *Gunzoku* who sweated and strained to wrestle these heavy barrels, weighing about 18

Healthy Jap soldiers aid in new construction. Most of the old buildings on Truk were destroyed by U. S. bombings.



tons, up these precipitous trails.

Tokyo was perfectly willing by this time to give Hara the material he needed. The trouble was that Tokyo could not fulfill its pledges: U.S. submarines were sinking everything en route. The last surface ship to run the American blockade reached Truk in June 1944. After that, Hara was dependent upon his own resources, plus a minute quantity of equipment and small-bulk supplies which could be brought in by occasional aircraft and submarines. Naturally, he stripped every damaged ship in his lagoon of every serviceable gun.

But Hara's increased establishment became a liability. He had 14,300 Army (the balance of the 52nd Division having been shipped in before the blockade became complete), 9,950 Navy and 13,900 *Gunzoku*. The Truk islands had supported 9,500 natives without difficulty, but they could not support these 38,150 Japanese in addition. (There were also a thousand or more Nauruans and natives of other islands in the Carolines.) Malnutrition was inevitable: to keep them from outright starvation, Hara ordered all units to cultivate gardens, and the *Gunzoku* were gradually released, as construction projects were completed, to work terracing the hillsides and growing yams.

AFTER the February attack, the Japanese started digging frantically. Everything that could not be put underground was hidden, and there were air raid shelters for virtually all personnel. Nevertheless, several hundred (including 234 Army) were killed in the air attacks which were delivered regularly by various American forces to keep the by passed base neutralized.

Truk had four airfields: one each on Eten and Param, two on Moen. It had two seaplane bases, on Moen and Dublon. Its total complement was about 360 aircraft, but its mission was purely defensive. Not a single offensive mission was ever flown from its bases, and the only one contemplated—a Kamikaze attack on the U.S. fleet at Ulithi in June 1945—was aborted because the field (Param) from which it was to have been flown was bombed out of commission.

By his concentration of strength on the largest of the interior islands (especially Dublon and Moen), Hara thought he could put up stubborn resistance to an invading force. He knew that preliminary air strikes would be devastating, but as 1944 wore on he had nothing left of value above ground, except his guns. For automatic antiaircraft weapons he had a fair supply of ammunition: they could have made the air hot for low-flying planes. The heavier AA guns would not be so useful, so his shortage of ammunition for these weapons was less important. His most serious shortage was in shells for his coast defense guns. To make up for this he had to improvise: used shell cases for guns firing semi-fixed ammunition were refilled; several types of shells were fitted with new firing bands to adapt them to guns of different models but of the same caliber. In any case, Hara did not intend to waste any of his precious ammunition.

Hara and his staff believed invasion possible by three routes into the lagoon: from the south, from the west, and from north and northeast. Approach from the south would have been in the face of fire from all the islands strung across the front, although the Japs thought that a preliminary lodgment might be made first on Otta and Mesogon islets. An advance from the west would have necessitated the capture of half a dozen islands, themselves of little value, before access could be had to the most important: Moen and Dublon.

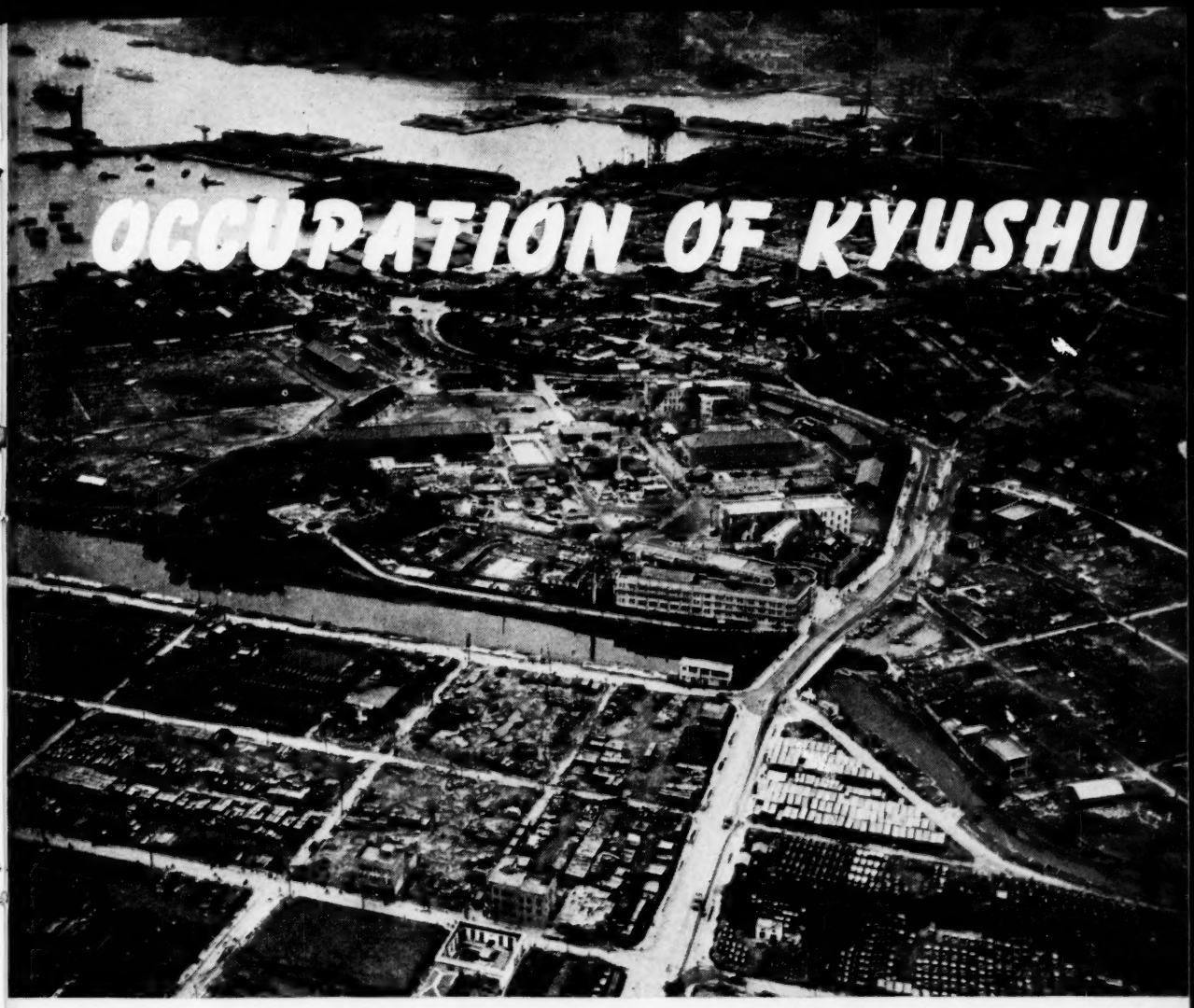
Therefore, the Jap staff believed an invasion would likely come from the north and northeast. This was the sector in which they could lay down the least supporting fire. They expected the first American objective to be Quoi Island, on the north side of Northeast Pass. Its capture would not be contested, but if opportunity presented itself, there might be a counterattack during the first night by a commando party.

Hara's coastal guns would have held their fire until (presumably at dawn) American minesweepers entered the lagoon, followed by destroyers for fire support and transports with the landing force. From their concealed sites, they might have inflicted considerable damage, but Hara did not believe they could long prevent a landing. For the last mile onto the northern beaches of Moen, the attackers' LCVPs and amphtracs would be under the fire of the Army's beach machine guns. But Moen would not have been half as tough as Tarawa; probably no worse than Roi and Namur. In two or three days, the northern airfields and some of the other flat ground would have been captured. Within a week the southern airfield would have been taken. There would have been some of the desperate cave fighting in which the Japanese became adept at this stage of the war, but it would not have been as deadly as that in the limestone ridges of Peleliu.

WITH Moen pacified, except for stray bands of Japs who would have remained at large in the hills for a few weeks, U.S. forces could have repaired and used the northern airfield, and would have had a large anchorage available. True, there would have been harassment by night commandos against the island, and by suicide boats against the ships. But these could not have dislodged the invader. The Japanese on the rest of the islands could have been left to rot.

Continued on page 39

OCCUPATION OF KYUSHU



This area was part of the Sasebo Naval Base until taken over by the occupying forces. The "U" shaped building by the river was the 2nd Marine Division command post.

ON 23 SEPTEMBER 1945 the 2d Marine Division (Reinforced) under the command of MajGen LeRoy P. Hunt, arrived in Nagasaki, Japan.

Although this article is concerned mainly with the 2d Marine Division the reader will have a better understanding of the problems involved if first we give a few brief facts about the island of Kyushu and then briefly discuss the events that culminated in the entire island and its outlying islands being placed under the occupational control of the 2d Marine Division.

By LtCol Michael S. Currin

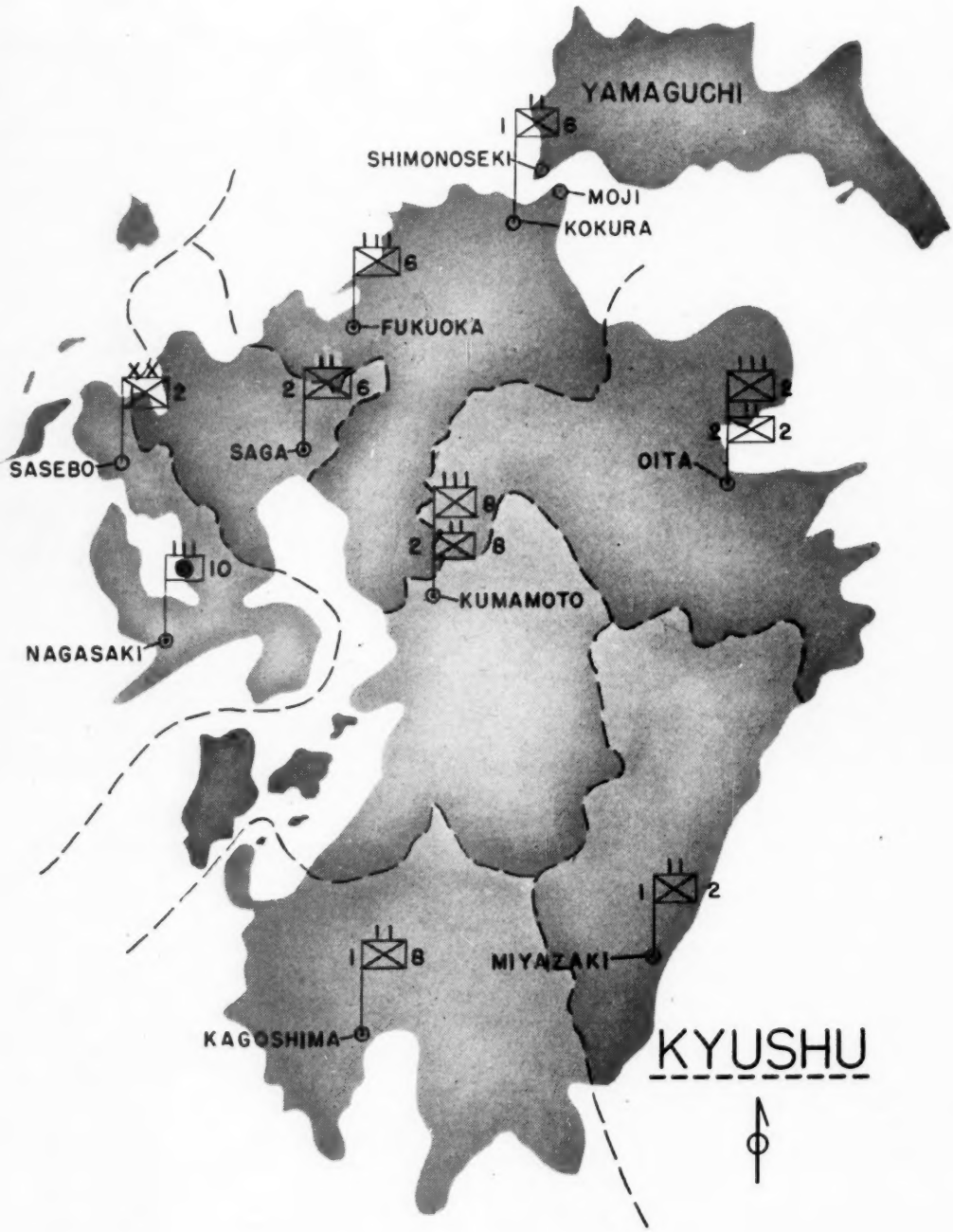
The island of Kyushu is the southernmost and also the smallest of the four main islands comprising the Japanese homeland. It has a land area, exclusive of its outlying islands, of 16,247 square miles and had a total population of 9,936,690 on 1 October 1940.

The island, in general, is mountainous with a fairly large coastal plain area in the vicinity of Kumamoto and Saga. Most of the population is located in the northern and western sectors, particularly the industrial northern area.

A railroad circles the island and also crosses the island from Kumamoto to Oita and from Kurume to Oita. The road net generally is poor but can be used by many types of vehicles if road maintainence is kept up.

Kyushu consists, for purposes of government, of seven prefectures of *kens* with capital cities of the same name in each case.

The Japanese were surprised at the fair treatment they received from the Marines



The seven prefectures of Kyushu were the occupational responsibility of the 2d MarDiv from 1 January 1946 until the Division's relief by the Army's 24th Infantry Division in June and July. When the occupation first began the island was assigned to the V 'Phib Corps which included the 2d and 5th MarDivs and the Army's 32d InfDiv

The situation during the period from September to December, 1945, was as follows:

The V Amphibious Corps; consisting of Headquarters and Corps Troops, the 2d Marine Division, the 5th Marine Division, and the 32d Army Division; was assigned occupational responsibilities for Kyushu and Yamaguchi Prefecture in Southern Honshu.

During the fall and early winter of 1945 the situation became more stabilized and as a result the V Amphibious Corps Headquarters and Corps Troops, the 5th Marine Division, and the 32d Army Division were withdrawn. By 1 January 1946 the 2d Marine Division was responsible for the entire area originally assigned to the V Amphibious Corps and had passed to the operational control of I Corps, U.S. Army. A short time later Yamaguchi Prefecture was passed to the control of the British Commonwealth Occupation Forces leaving the 2d Marine Division with the island of Kyushu as its sole area of responsibility. There were no further changes up until the time the Division was withdrawn in June-July, 1946, and turned over the occupational responsibility for the island to the 24th Infantry Division.

WHEN the 2d Marine Division landed at Nagasaki it had briefly this mission:

a. To enforce the terms of surrender.

b. To advance the postwar objectives of the United Nations.

c. To supervise the disarmament and demobilization of Japanese Armed Forces.

d. To supervise the execution of policies relative to Military Government.

In addition to the foregoing, which required some decentralization, commanders had to so distribute their forces so as not to jeopardize the security of the initial strategic centers of occupation.

In accomplishing this mission, the problems peculiar to occupation duty that had to be solved were these:

a. Location of troops—Where and how should the tactical units be located to best accomplish the mission?

b. Procurement of supplies—How and where were the necessary quarters and supplies needed by the occupation forces to be obtained?

c. Disposition of captured materiel—By what method and by whom were the thousands of tons of ammunition, ordnance supplies, and other war making materials to be rendered useless to the Japanese?

d. Repatriation—Several millions of Japanese had to be returned to their homeland as well as thousands of Chinese and Koreans to be returned to their countries. How and by whom was this to be done?

e. Attitude of the Japanese people — Would they help the occupation forces? Would there be active or passive resistance?

f. Supply and evacuation — How were the units of a division scattered over 16,247 square miles to be supplied?

These then were the major problems that confronted the 2d Marine Division.

First, the location of troops. The magnitude of this task can be conceived when it is realized that the area assigned was equal roughly to the combined areas of New Hampshire and New Jersey and had a population almost twice as large.

Sasebo, one of the four principal naval bases in Japan with a 1940 population of some 205,987, was selected for the Division command post. Some of the reasons for this selection were as follows: (1) Sasebo had the best deep water harbor in the island (2) it facilitated the handling of troops incoming and outgoing (3) supplies could be brought in by ship and distributed from Division dumps to subordinate units via the network of railroads (4) the various buildings required for a permanent command post were available and (5) it afforded good communications.

With some seven prefectures to control, it was decided to dispose tactical units as follows:

The 2d Marines, with headquarters at Oita, had Oita and Miyazaki Kens; the 6th Marines had Saga and Fukuoka Kens; the 8th Marines had Kumamoto and Kagoshima Kens; and the 10th Marines were given Nagasaki Ken. Naturally, these assignments were not made initially but were the result of the steadily increasing area of responsibility assigned to the 2d Marine Division.

OCCUPATION of the areas followed a standard pattern as listed below:

a. Initial aerial reconnaissance by a Division staff officer of field rank.

b. Ground reconnaissance and contact with the local authorities.

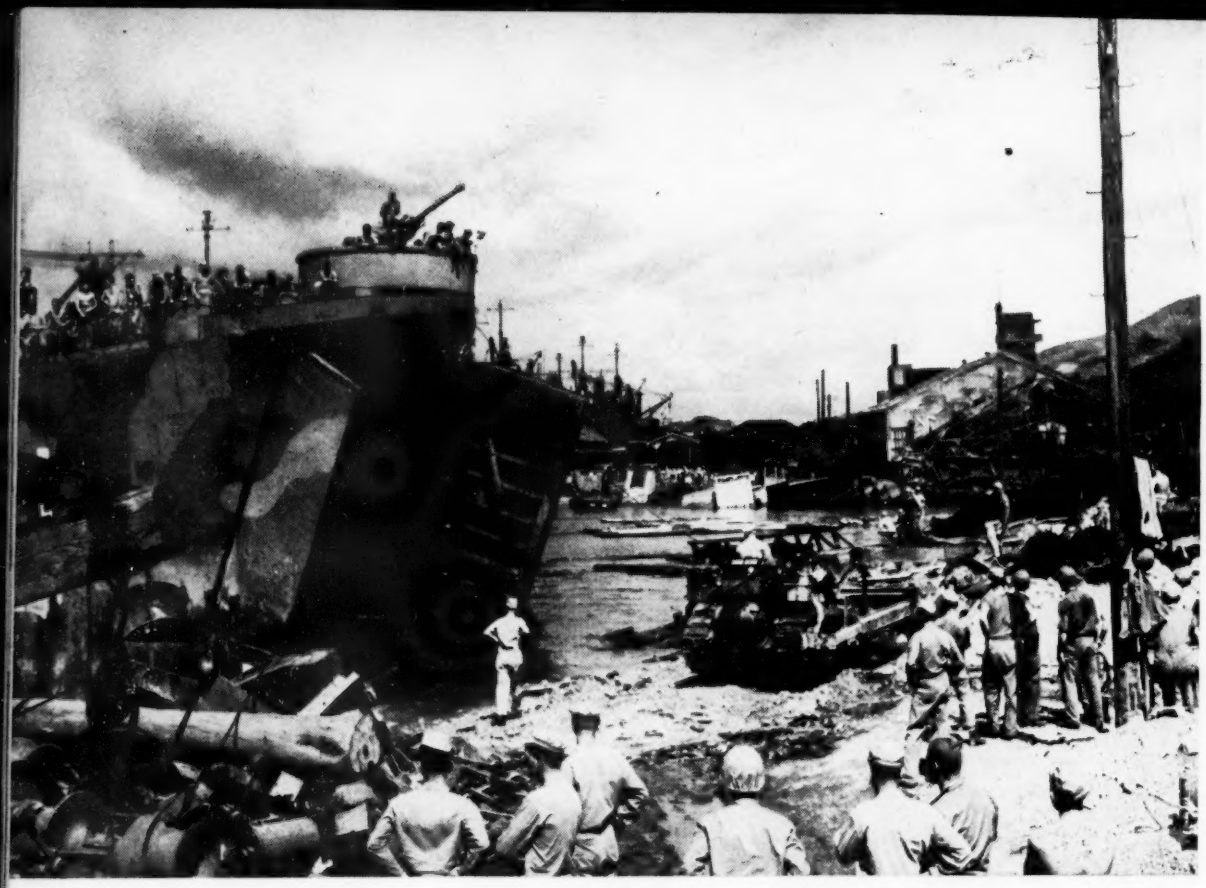
c. Tentative arrangements and checks on billets and water supply.

d. Movement of advance party of the unit into its area.

e. Completion of arrangements for movement of main body of troops into area.

f. Movement of troops into area.

By following this standard procedure much confusion was eliminated and an orderly occupation of areas resulted. Since tactical boundaries followed ken boundaries, and military government units were assigned to each tactical headquarters, the problems of control were greatly simplified. In other words, by having the



Marines watch a bulldozer clear an unloading area for an LST on Nagasaki's bomb-pounded beach on the day following the arrival of the 2d MarDiv's occupation force.

whole of a prefecture within the zone of a regiment the prefectural governor could look to one authority for instructions and thus prevent much confusion and delay in carrying out the various directives that were issued by higher authority.

Second of the problems was to procure necessary supplies, real estate, equipment and facilities to meet the operating requirements of the Division.

Obviously, in order to avoid confusion and to maintain accurate records a standard procedure had to be set up for procuring what the Division needed. Directives from higher authority established this procedure and it was up to the Division to organize a section to carry it out.

By Division administrative order a Division Procurement Section was established. This section consisted of one lieutenant colonel as Division procurement officer on the Special Staff level, a major as executive officer, two real estate officers, one transportation officer, a supply officer, and a military government officer plus the necessary interpreters and clerical assistants.

Units submitted procurement requests on standard forms for such items as buildings, furniture stores, and fixtures to the Division procurement officer who processed them and maintained records for future reference.

Perhaps the biggest task confronting the Division was the disposal of surrendered Japanese military equipment and installations. The great naval base at Sasebo, the arsenals such as Sone and Kokura, and the innumerable Army and Navy supply installations scattered over the island had to be disposed of in accordance with instructions.

To do this job, a Division Disposition Section was established as a Division Special Section.* At its head was a lieutenant colonel with an executive officer, an administrative assistant with clerical help and a disposal group. This section was charged with exercising general supervision and coordination over the disposition of surrendered Japanese military equipment and installations in the 2d Marine Division zone of responsibility.

The disposition officer had to issue such instructions; as deemed necessary to insure compliance with current directives of higher echelons. However, regimental commanders were charged with the direct responsibility for the disposition of surrendered material in their respective zones. The Division disposition officer coordinated the efforts of subordinate units and furnished such technical assistance as was required. For example a Navy Bomb and Mine Disposal Group was available to help out where needed. To further

* For more on the disposal of Japan's armaments see *Scattering Japan's War Might* by Col J. P. Berkeley, page 15 of the May '46 Gazette.

speed up operations the Division disposition officer was authorized to deal directly with the Corps disposition officer.

Activities of the Division Disposition Section included not only destruction of war making materials but also the proper disposal of materials that could be diverted to peacetime economy. Such items as food, clothing, and medical supplies, in particular, could well be used by a war-ravished country and were turned over to the Japanese authorities for the use of the people.

In addition to the foregoing was the problems of repatriation. Some five to six million Japanese, both civilian and military, had to be returned to Japan and some thousands of Koreans and Chinese in Japan had to be returned to their countries.

Under Supreme Commander for Allied Powers directives the Japanese were charged with setting up repatriation centers to handle the incoming repatriates. However, it was the responsibility of the Division to supervise these centers and see that SCAP directives were being enforced.

Repatriation centers were established at Kagoshima, Hario (near Sasebo), and Fukuoka (Hakata). How well this tremendous task was supervised is shown by the fact that over a million and a half Japanese were processed through these ports with no major difficulties. How great the task was can be visualized when it is considered that each individual had to be sprayed with DDT, inoculated for typhus and smallpox, provided with food, and transported to his final destination in Japan. The possibility of the catastrophe that could occur, such as the outbreak of a major epidemic, were supervision lax, staggers the imagination. However, by assigning line and medical personnel whose sole duty it was to supervise the Japanese repatriation, the job was accomplished in an orderly fashion.

BEARING on the solution of the foregoing problems was one question of paramount importance. This was—How would the Japanese react to the occupation?

Naturally, the Division went in prepared for trouble but fortunately found none outside of a few cases involving malcontents.

Our troops, of course, had been indoctrinated with the basic policy—"Occupation forces will treat the civilian population in such a way as to develop respect for and confidence in the United Nations and their representatives and to encourage cooperation in the accomplishment of the desired objectives."

This policy was successsful as evidenced by the fact that there were no riots or demonstrations of any kind inimical to the occupation forces.

Apparently the Japanese were dumbfounded because of the fair play they received. For example, the writer during the course of an investigation concerning the destruction of property by some Allied nationals had cause to interrogate certain officials of the Mitsubishi Heavy Industries, Ltd. It was quite evident that these officials could not understand why the Americans were investigating. Their attitude was that we were the conquerors and if any of our people desired to wantonly destroy property that was their privilege. A good indication of what we might have expected had the shoe been on the other foot.

Some of the Japanese officials would try to gain a little face—having lost everything else—by certain sly methods. For example, when our troops were granted liberty for the first time, the Japanese officials were worried about trouble between the troops and civilians. Upon being assured that ouor military police would take care of our people they bowed several times and the spokesman said "Thank you very much for helping us to police the city." They were immediately told that we were running the city and that it was *they who would assist us* by having their police maintain careful surveillance of the Japanese civilians. The group laughed and hissed over that one as Japanese are wont to do when they are greatly embarrassed.

BRIEFLY, the Japanese went about their business and the occupation forces went about theirs and what difficulties there were, were of such a minor nature as not to require mention.

With units of the Division stationed all over the island supply and evacuation posed some difficulties. However, with the railroads, VMO-2, and the four R4Ds attached from Marine Air Group 25, the solution proved easy. The network of railroads on the island moved the bulk of supplies but it was the air service which proved of inestimable value.

A daily schedule was set up serving all regiments and some of the battalions. This air schedule meant that personnel received mail days earlier, the administration of the Division was speeded up, and emergency evacuation from any part of the island to the Division Hospital at Sasebo became a matter of hours instead of days.

During June and July the Division sailed from Sasebo, Japan, for the United States—its mission accomplished. How well the job has been done is attested by the following farewell message from MajGen Woodruff, Commanding General, I Corps, to the Commanding General, 2d Marine Division: "Today the 2d Marine Division comes to the end of its long trail from Guadalcanal to Japan. Its achievement in battle and in occupation: 'Well done.' The cooperation and assistance of your splendid Division will be greatly missed. I Corps wishes you bon voyage and continued success in your next assignment. Woodruff." USMC

The Atom Bomb Comes into Focus

The atom bomb makes amphibious operations, such as known in World War II, a thing of the past. However, this new weapon will by no means completely revolutionize the armed services

By Lt Richard S. Hodgson

MANY THINGS have been called "The Greatest Show on Earth," but those of us who had seats for the Operation Crossroads show at Bikini are thoroughly convinced that we have seen the greatest of them all.

The explosions of the fourth and fifth atomic bombs over and under the Crossroads target fleet anchored in Bikini Lagoon were the most grandiose spectacle ever beheld by human eye. But after the awesome beauty of the actual explosions and the amazing picture of destruction that was the target fleet after the blast, the great show began to reveal a hoard of very important facts for use in the planning of armed forces for the future.

The greatest accomplishment of Operation Crossroads was the bringing of the atomic bomb into focus. In Bikini Lagoon, history's most powerful implement of warfare became a finite weapon, its power measurable and limited.

LtGen Roy S. Geiger, the Marine Corps' official observer at Bikini, points out that we now know for sure that the bomb isn't something that will completely revolutionize our armed forces.

"The principles of warfare will remain unchanged. The atomic bomb is just another in a long series of 'new' weapons whose use will be adapted to the same unchanging principles," the General said.

Several scientists, obviously speaking out of turn, scoffed the tests during the planning stages as unimportant because we supposedly already knew all necessary facts from atomic bombs one, two, and three. Bikini proved them wrong.

From the facts provided by atomic bombs four and five we learned of many desirable changes in naval construction. The President's Evaluation Commission pointed out in its report that what we learned at Bikini will "undoubtedly point the way to change in ship's size, design, and structure both above and below the water line."

Superstructures as we know today will most likely disappear from naval vessels of the future, and new ones—strengthened and modified—will take their place. Arrangements to provide cover for the crew topside so that they can be protected from atomic blasts will likely become standard on ships. Navies of tomorrow will have to do one or both of two things—increase their armor, and/or as many trained observers pointed out, put more reliance upon numbers, dispersion, and mobility.

The President's Evaluation Commission said, "Protection from catastrophe by deadly gamma and neutron radiations lies in wide spacing of task forces and decentralization of navy yards, repair and loading facilities of ships within port, and amongst all available harbors. We are convinced distance is the best defense."

But what was the over-all lesson learned?

ViceAdm W. H. P. Blandy, Commander of Joint Task Force One, which conducted the operation, pointed out when Crossroads was just beginning to take shape that this was not a test to decide some large over-all issue such as the need or lack of need for a large fleet, airforce, or ground force. It was, he said, a scientific experiment to learn facts about the effect of the atomic bomb on naval vessels, with a secondary objective of learning more about the atomic bomb.

But as we learn these facts, we are bound to come closer to an understanding of what the future holds for naval and military operations, including amphibious warfare.

Consider these facts:

Atomic Bomb Number Four:

It exploded in the air several hundred feet over a group of 73 vessels anchored in Bikini Lagoon missing the *USS Nevada*, target bull's eye, but exploding within a "damaging" distance.

It sank five ships—the destroyers *Anderson* and *Lamson*, the APAs *Carlisle* and *Gilliam*, and the Japanese cruiser *Sakawa*, a total of 22,260 tons.

It damaged in varying degrees all other ships within a three-quarter mile radius. Some of these, such as the aircraft carrier *Independence*, the cruisers *Salt Lake City* and *Pensacola*, and

the submarine *Skate*, were so badly damaged that they would have required extensive repairs to be of value as fighting ships.

It killed a great many of the exposed animals which were placed aboard the target vessels instead of human crews. Many were killed outright; others died later from exposure to a too heavy dose of deadly radio-activity.

Atomic Bomb Number Five:

It was suspended in a caisson between 18 and 90 feet (best estimates, although the official depth is still top secret, place it between 25 and 40 feet) beneath a LSM anchored in Bikini Lagoon. It was exploded by radio signals from a ship some 10 miles away.

It went off with a fury that sent a huge water column 2,100 feet in diameter 5,000 feet into the air and sent spray and gas over 9,000 feet upward as well as pushing out a doughnut-shaped cloud perhaps five miles in diameter covering the target fleet with what RearAdm W. S. Parsons explained as the "most poisonous fog in the history of the world."

It threw radio-activated water and fission products over many ships of the target array, making them so "hot" that they were "untouchable" for long periods of time.

It sank three capital ships —the mighty battleship *Arkansas*, the famed carrier *Saratoga*, and the Japanese battlewagon *Nagato* plus an oil barge, and some smaller craft—a total tonnage of 98,940 tons.

It forced the beaching of the destroyer *Hughes* and the APA *Fallon* so that they could be examined and heavily damaged the cruiser *Pensacola* and the submarine *Pilotfish*. It caused moderate damage to seven submarines, the transport *Gasconade*, one LST and three LCIs. The majority of this damage was to hull plating, interiors, and fittings.

Those are the facts—now let's consider their relation to the naval and military future.

Gen Geiger said after witnessing the Crossroads tests from aboard the *USS Blue Ridge*, "The atomic bomb would certainly be very effective in preventing the assembly of ships both for loading and unloading in an amphibious operation." But the General went on to point out that he had his doubts whether dropping an atomic bomb upon an amphibious force would be militarily efficient in view of other more fundamental targets available in war operations.

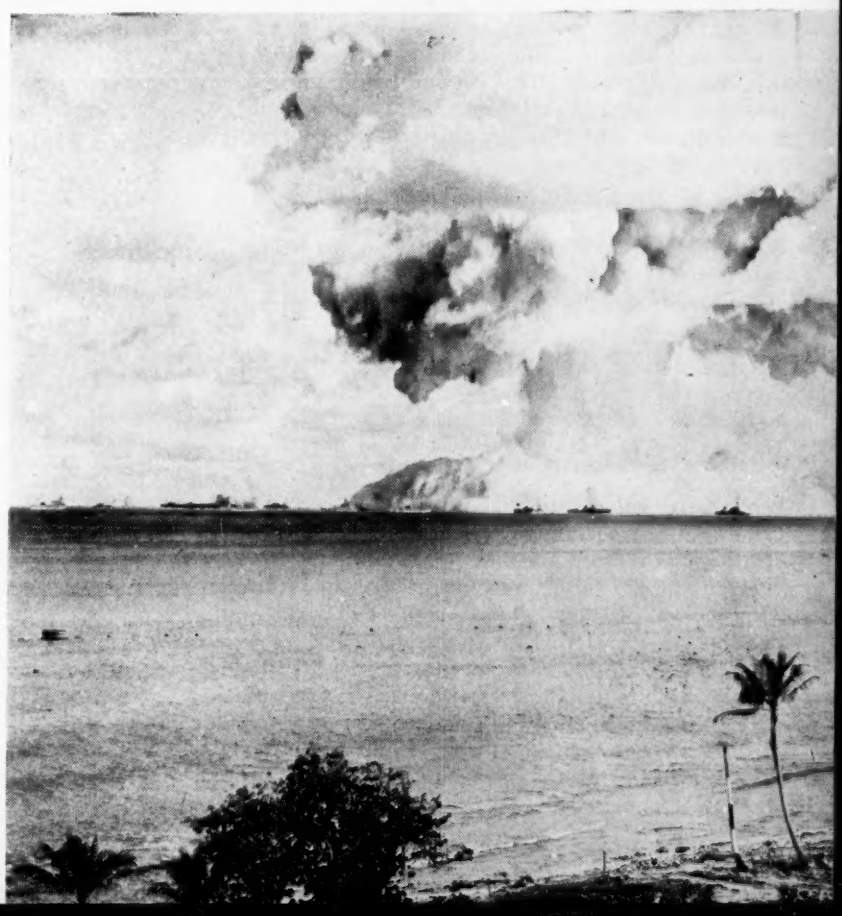
"Most amphibious operations as we knew them in World War II are probably a thing of the past," Gen Geiger stated. "All that is necessary now is to drop an atomic bomb on an objective and it will be neutralized. If it is a large objective, drop several A-bombs."

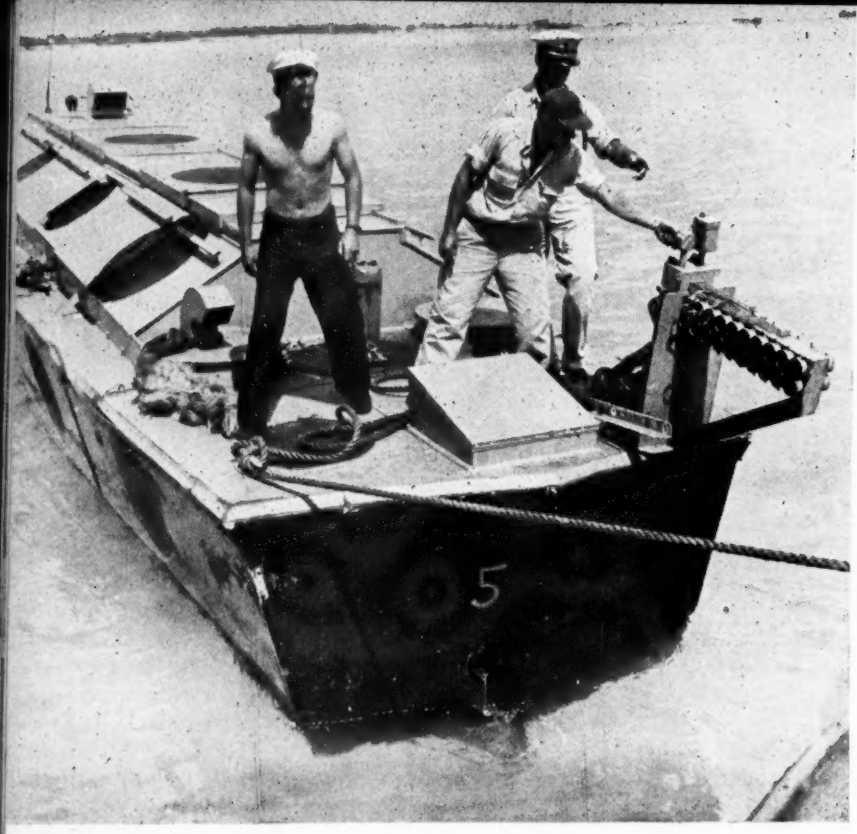
This however doesn't eliminate the need for a landing force to follow-up an atomic bomb attack and occupy an objective, or to "capture" objectives that are more desirable intact, the General explained.

An important fact to remember about the atomic bomb as it is today is that it is not a weapon that can be mass-produced. That fact, and its high cost of production, force it into a class by itself. Present indications are that the bomb will remain in this elevated position for some time to come, but, of course, planning must allow for the possibility of the atomic bomb becoming a weapon produced in quantities.

However, Gen Geiger made a very interesting observation considering either possibility. "The

Atom bomb No. 5 spouts a radio-active umbrella over target, sinking 98,940 tons. Ships fringing blast were badly mauled.





Scientists used drone boats as well as planes to probe lethal areas. Smoke cylinders at stern charted course for mother ship.

safest man in an atomic bomb attack," he said, "Is the man in the front lines. The potential danger becomes greater as you move to the rear—an assembly point behind the front lines, then the supply areas, landing and loading areas, and finally back to the so-called 'home front' that embodies war plants, transportation centers, and densely populated areas."

One military analyst explained this phenomena this way: the atomic bomb is primarily a strategic weapon best employed against cities and thickly populated industrial areas rather than as a tactical weapon employed against navies and armies.

Even though this opinion is very important, it does not in any way eliminate the necessity to consider the atomic bomb as a weapon for tactical use in any military or naval campaign of the future.

As Gen Geiger pointed out, it could certainly be an effective weapon wherever a large concentration of shipping was gathered either in the loading or unloading phase of an operation. One bomb properly placed could neutralize a loading area one mile in diameter and could do the same to an unloading area. However, in the case of the unloading area—which usually would be close to the enemy and his defenses—it would be a very impractical weapon under most conditions for it is relatively "uncontrollable. Although it could cause severe damage to the invader, it often would greatly endanger the defender.

For all of its potent explosive power, the atomic bomb has another even more potent power—deadly radio-activity. Without instruments you are not at all aware of its presence. But it is as deadly as poisonous gases. Personnel could be shielded from the initial dosage of radio-activity distributed by the blast itself, but if a person were forced to remain in an area contaminated by a lethal dosage of radio-activity for any length of time he would be doomed to a radiation death.

Since radio-activity produced by the atomic bomb is easily spread by water currents and winds as well as by the blast itself, it would quite often constitute a danger to a defending force using it anywhere in the vicinity of their defensive positions. Such a force must remain in one area a good deal longer than an invading force which is free to move around in such a way as to avoid a contaminated area.

However, for all of its deadliness, the radio-activity at Bikini led to many misunderstandings as to the actual danger involved. Because, in the case of the second test, radio activity forced working parties to keep out of many sectors of the target area and off several target ships for some days, many people jumped to the conclusion that these areas were "deadly" during this entire period.

Actually, because of the very careful safety precautions taken to be sure that there would be no casualties from radio-activity, a limit of one-tenth of a Roentgen Unit per half-hour every 24 hours was set. This limit is lower than that of a simple dental X-ray, but the effects of radio-activity are something that "build-up" and because of a great number of civilian scientists who work regularly with radio-activity were involved in the Crossroads tests, the low limit had to be set so that their future usefulness in their chosen profession would not be impaired.

Should a defending force be subjected to a greater concentration than this for any period of time, they would be in great danger and

probably have to move out of their established defensive positions.

Once a campaign is primarily a land-operation, the bomb becomes a more practical weapon—but not for use in front lines. Gen Geiger's observation that the man in the front lines needn't worry about an atomic bomb attack is based on the fact that men in the front lines are usually well dispersed and quite close to the enemy. An atomic bomb loses a great deal of its effectiveness if employed against an unconcentrated target. As the President's Evaluation Commission pointed out, "Distance is the best defense."

Both the attacker and defender could easily employ this weapon in attacks against supply dumps or other points in rear areas. However, it would again be rather ineffective if it were used against supply dumps or troops in rear areas.

ANOTHER factor that must be taken into consideration if the atomic bomb were to be employed in this manner is the threat of lingering radio-activity. A good general rule would seem to be to allow never less than two days and more preferably a week before moving into an area which had been atomically-bombed, and even then it would be necessary to make a careful check to be sure that the area isn't still radio-active.

Just as gas masks and decontamination outfits are deemed essential equipment within military forces of today, Geiger counters—the instruments used to determine the presence and extent of radio-activity or similar instruments and radio-activity equipment—will be on the essential list.

Military personnel of today as well as tomorrow must be prepared to accept radio-activity as a new hazard of their profession and be ready to work and fight in its presence even though they know they are doomed. This factor will, of course, become less important as means are found to protect humans from this "silent death," but until such a time comes, it constitutes a problem of training that never has been faced before.

And not only must they be taught to accept it, but personnel must learn to respect it. It is hard to realize that something you can't see, hear, feel, taste, smell, or in any way sense, can kill or injure you, but nevertheless it is a fact and if military and naval personnel fail to realize to just what extent they can safely deal with it, they shall be lacking in proper background necessary to fight the battles of tomorrow.

Even though personnel may be moved out of a radio-activity area in time to save them from radiation sickness or death, equipment presents another problem. Equipment exposed to an atomic bomb's blast is apt to pick up a good dose of radio-activity which will continue to linger for a lengthy period of time. Several items of military equipment stowed on the decks of Bikini target ships showed a tendency to remain radio-actively "hot" after the bursts. In such a condition this equipment would be entire useless.

Scientists are already at work devising methods of decontaminating such equipment. During the Bikini tests, ships and equipment on them were washed-down with water and other liquids in an attempt to rid them of their dangerous radio-activity. Although this was partially successful, as yet no really successful method of decontamination has been found.

Other damage to military equipment besides radio-activity contamination paralleled damage to target ships. Equipment on ships in the area nearest to the point of detonation in the air-burst test was, for the most part, burned out, wrecked, or quite badly damaged. However, some of it in sheltered places on ships' decks escaped damage. For instance, aboard the cruiser *Pensacola*, which suffered severe damage from the air-burst, I saw cans of "C" rations which had been blasted into flat pieces of metal and heavier military items which were severely damaged. These items were on the port side forward which was directly exposed to the blast, but in sheltered places aft on the ship, hundreds of items of military equipment were virtually untouched.

AN unexpected and unusual item was that a considerable amount of Army and Navy ammunition—including all types from small arms to a special 4,000-pound bomb—exposed on the decks of target ships proved relatively stable and apparently none of it detonated in either test, except possibly that on the ships sunk and on the carrier *Independence* which was set afire i nthe first test. Another item that quite surprised test observers was that rubber tires on mobile equipment remained apparently undamaged and still inflated.

During the sub-surface burst, a simulated beachhead was included in the test with a number of landing craft drawn up on the Bikini Island beach and stores of military equipment, ammunition, and other supplies were placed along with various weapons, installations, and military vehicles in selected spots along the beach some two and a half miles from the center of the blast. However, waves of contaminated lagoon water reaching the beach were much smaller than anticipated and failed to do anything more than affect the landing craft drawn up on the beach.

However, a third test—a deep sub-surface test—is tentatively scheduled for sometime about March 1947 and may produce much higher

waves than those resulting from the shallow water burst.

Another item that surely must be considered is the construction of permanent bases of all types. Pearl Harbor, for instance, would be a perfect target for atomic bomb attack as it now stands. A single bomb properly placed could do great damage to the Hawaiian base, and three or four bombs could destroy its usefulness for a long time.

Any of the present state-side Marine Corps bases with the exception of Camp Joseph H. Pendleton would be ideal atomic bomb targets. Only in a base such as Camp Pendleton, scattered over a wide area, can there be relative immunity from an atomic bomb attack.

Some airmen have taken a smug attitude over the atomic bomb which is primarily an aerial weapon. Gen Geiger condemned this position by pointing out, "One of the best targets to pit an atomic bomb against would be an airfield or an aircraft plant. The air arms of all our services can't afford to sit back and relax now with a feeling of immunity—the atomic bomb constitutes a great danger for them."

THERE are several factors bearing on these results that must be kept in mind. For instance, one important item quite often overlooked is that had the target ships been manned, the damage probably would not have been so great. The *Independence* is a good example of this. In the Able-Day test, her after end was turned into a blazing inferno which caused severe damage. However, had there been a crew aboard her, it is likely that many of the fires that caused serious damage could have been prevented by trained fire-fighting crews.

Another important fact that many times escapes the observing eye is that the arrangement of the ships for the tests had a great deal to do with the extent of damage, and any comparison of the Tests Able and Baker must take this factor into consideration.

Early in the planning stages of the tests, it was clearly recognized that no one test or series of tests could at the same time (1) simulate war conditions, (2) provide the date desired from the purely scientific point of view, and (3) provide the data essential in order to proceed along sound and economical lines in developing our armed forces.

The directives from the Joint Chiefs of Staff that ordered Operation Crossroads required that the tests provide the essential data required by the armed forces. The tests were primarily planned, therefore, to determine what would happen at various distances when atomic bombs were used against ships and other items of military equipment. Much information of value to pure science also was expected to be obtained, and, where practicable, simulation was made of typical operating conditions.

Because these three factors were all given thought in the arrangement of the target array, the actual amount of tonnage sunk or damaged is not by any means the final standard by which the results of the test should be measured.

For any individual or group of individuals to try to fully explain the findings of Operation Crossroads at this time or in the near future would be sheer folly, but even so, many reporters of the Bikini show are already proclaiming many things as fact that cannot be explained for a long time to come.

FAR too many of the Crossroads correspondents were so intent on the "flash news" value of the operation that they didn't bother to adhere closely to fact and consequently led public thinking into many varied and far divergent channels. One reporter of a very highly respected Eastern newspaper wired his editor following the air-drop that the force of the blast had thrown him against a bulkhead and sent his typewriter clattering to the deck of the USS Appalachian, the press ship, where, in reality, the blast was hardly even felt.

A network radio anouncer reviewed the Able-Day test by proclaiming to a listening world that the bomb had exploded two seconds too soon and thus, far above the planned height, causing much of the explosive force to be lost in the air. The fact of the matter was that the bomb had exploded at the altitude planned.

Most press copy coming out of Bikini following the first Crossroads test showed the disappointment felt by most of the corespondents in that the test, although the most spectacular thing ever witnessed by them, failed to live up to the ballyhoo build-up given it.

This in turn brought to the public mind the opinion that the atomic bomb, at Bikini, had lost some of its might. This dangerous feeling was somewhat changed by the more spectacular show put on by the second test—the under-water burst.

As a whole, Operation Crossroads was the greatest military experiment in the history of the world. Praise for the manner in which it was carried out was strong and well-deserved. The test was a success for among other important results, it did a much needed service—it brought the atomic bomb into focus.

US MC

SEA-GOING TRUCK

THE military birth of the Dukw brings to mind that timeworn question, "Which came first, the chicken or the egg?"

When Hitler's hordes invaded France, Belgium, and the Low Countries of Europe, there were reports that the Germans were using a small-wheeled vehicle which could cross rivers and lakes and operate in the flooded Netherlands.

About that time United States military equipment chiefs decided they had better get busy and develop an American wheeled amphibian vehicle. It is not too difficult and no great engineering feat to float a vehicle. The problem was to develop a vehicle which could do an all-around job, stand the military gaff, and be adapted to mass production.

By Capt Mark Tuban

Prominent engineers of the automobile industry aided by designers and builders of small craft including an internationally known yacht designer and builder, were called to pool their efforts and design an amphibious vehicle. They chose the ever popular "Jeep" as the motive power for their experiment.

After several months these technicians designed an amphibian vehicle far superior to the Germans "Schwimmwagen," which in turn had been developed from the "Volkwagen," the people's car, a small passenger vehicle which Hitler had promised he would place in every German garage.

The American public, service and civilian, received its first peek at a wheeled amphibian vehicle when the newsreels, late in 1942, showed an odd contraption being driven off banks into lakes and rivers. Then with ease the vehicle would proceed to float its load of supplies or passengers. The same films showed the amphibian vehicle being driven rapidly off a wharf into the water creating a terrific splash.

Service personnel who had to work and live with the amphibian car soon nick-named it "Seep," and learned that there were many problems still to overcome. Keeping water out of the front wheel drives, brake drums, and the hull itself were just a few of the minor difficulties encountered.

The war-hatched DUKW will be an organic part of the postwar Marine Corps

Both the Army and Navy liked the Seep and got it in production, but its military value was limited. Military men responsible for the huge logistic problems in Africa, the East, and the Pacific, where port facilities were non-existent, began to cry for an amphibian vehicle capable of carrying a military load from ship to shore and then on roads to inland dumps and gun positions. American engineers tackled the problem.

The average United States military cargo vehicle has a 2½-ton capacity. The Army was using a 2½-ton, 6x6, cargo truck, model KW. Engineers who hatched the Seep chose the model KW truck chassis as the basis for their new experiments.

WITH the experience gained in creating the Seep, the National Defense Research Council soon developed an amphibian truck capable of transporting military loads from ship to shore and vice versa. As a matter of fact, in some ways the amphibian truck had certain advantages over the truck, even on land.

After an amphibian vehicle leaves the surf, its tire pressure must be extremely low in order that it may traverse successfully the sandy beach where traction is hard to obtain. Later, when hard roads are reached, a fully loaded vehicle requires much higher tire pressure. To conquer this problem an ingenious air compressor was developed to deflate or inflate all six of the amphibian's tires automatically.

It took a long time to develop a successful amphibian truck, but the new cargo vehicle soon proved its worth. With straight-faced humor, the originators of the new amphibian placed the letters "DU" in front of the chassis model KW to give it its name. Some thoughtful soul even added a Klaxon horn so that the Dukw could "quack quack" like the Donald of Disney fame.

The few men who watched the Dukw being hatched knew what it could do, but few on the outside were conscious of its capabilities. The Dukw had to be sold to the various military services. Everyone was busy with problems of his own and the original enthusiasm for the Seep by this time had lessened.

Although the Army had much to do with the early development of the Dukw, it felt that, since the Dukw would be used in ship to shore movement, it was a Navy responsibility. The Navy admitted it floated, but maintained it was a vehicle; therefore it should be operated by the Army.

Meanwhile the tactical situation in all theaters of war demanded the Dukw be placed in production rapidly. Dukws began to come off the assembly lines at a slow but increasing pace.

As soon as the production problem had been licked, the Army faced the task of setting up training centers and programs to develop a doctrine and procedure for the operation of Dukws.

Months went by before the new amphibian vehicles delivered their first loads on the Anzio and Pacific beachheads.

Men had to be trained to drive and work the vehicles at sea, on the softest beaches, and over varied terrain. Mechanics had to learn to keep the Dukws rolling under the severest conditions on a 24-hour basis.

Men had to learn and practice mooring Dukws alongside transports and cargo ships. Operations had to be coordinated with the Navy's big landing boats which play an important part in Dukw operations.

Drivers had to learn signals for land and sea. They had to learn how to handle and stow cargo. New equipment for ships and Dukws was developed to insure efficient ship to shore operation.

LtGen Holland M. Smith, top marine of the Pacific, recognized at first glance the possibilities of Dukws in Pacific operations.

At the beginning of American participation in this war, the European theater had practically all priorities, including those for Dukws. Few Dukws arrived in the Pacific until the Marshall Islands operation.

In the Marshalls the Dukws landed the artillery on Enbuj Island. Then they carried every round of ammunition the "Long Toms" fired on adjacent Kwajalein direct from ship to gun position. Those who saw this performance and realized the thousands of hours of labor saved by Dukws gave thanks for them and are still singing their praises.

The real test for the amphibian truck in the Pacific was in the Marianas campaign where they were used by both Marine and Army units. The Leathernecks had two newly organized companies.

On Saipan the Dukws landed the organic artillery of the divisions and displaced the guns where necessary and that was frequently. In addition, every available Dukw was used for the next 35 days and nights to carry ammunition, fuel, aviation gasoline, plasma, chow, water, clothing, and thousand of other items from ship to shore to insure the success of our operations

In the early phases of the Saipan campaign, the Japanese had all their artillery trained on the narrow channel off the village of Charan Kanoa. The Dukws, therefore, had to get over the coral reef fringe, adjoining the channel, by battling the huge breakers which pounded with terrific force. It was a test passed with glory, but not without considerable loss.

It wasn't long before the combat medical men learned the Dukw offered the most comfortable means of evacuating severely wounded men from field hospitals to transports and hospital ships. Evacuation by Dukw eliminated several handlings and was more comfortable for the wounded.

Marines landing on Tinian established several

records which will stand for years to come. Without a doubt, the most outstanding feat was the landing of the 2d and 4th Divisions and their equipment on two small beaches, the combined width of both being less than 150 yards.

On D-Day plus 2 the surf on White Beaches One and Two became so rough that no craft could approach to land on them. The divisions, ashore with only combat loads and rations, were in a tough spot. Unless ammunition, food, and water were supplied them quickly and constantly, their progress would be impeded.

Medical men soon learned that DUKWs were the best means of directly evacuating the wounded from the field to shipboard.

Despite, the rough sea, heavy surf, and undertow, the LVTs and Dukws maintained a constant shuttle from ship to shore, performing a seemingly impossible feat, and kept the Marines supplied. Dukws were hit by shells from hidden gun positions in the rocky cliffs of Mt. Lasio. Dukws were pounded and turned over by the sea. But mechanics and drivers kept sufficient vehicles in service day and night to do the job.

At Guam the Dukws landed on every beach in spite of coral reefs. Troops landing at Agat Bay were caused considerable grief when obstructions and submerged barricades confronted them as they crossed the reef. However, the Dukws found a channel and soon supplies were coming ashore and moved over the world's stickiest and muddiest roads to gun positions and dumps. The same conditions prevailed at Sumay, Agana, and later at Ilig Bay.

The Iwo Jima campaign saw the largest number of Dukws used in any single Central Pacific operation. Again Marine and Army Dukw personnel operated the vehicles from D-Day until long after the bloody isle was secured.

Dukws landed artillery on D-Day despite the fact that all beaches were constantly raked by Japanese artillery, mortars, and rocket fire. Dukws evacuated wounded on their first return trip after the initial landing.

Rough seas, huge rolling breakers,, undertow, and steep inclining beaches of loose volcanic ash made the shore approach an almost impossible task.

Many Dukws were destroyed by gun fire. Some were swamped. Others broached and were pounded to pieces by the surf. Men were killed, drowned, wounded and bruised, but ammunition, plasma, whole blood, food, water, supplies, and men continued to flow ashore in a constant stream.

Finally, when no other craft could approach the eastern beaches of Iwo, Dukws still bounced through the waves and tractors with cables and winches snaked them ashore. The drivers fought with every nerve and muscle to keep their vehicles topside up.

Yes, the Dukw is a wonderful bird. However, its maintenance is a big headache. It has all the vices of an ordinary military vehicle, plus all the aches and fickleness of a sea-going craft. Without a doubt, the Dukw doctors or maintenance crews, due to necessity were the most ingenious repairmen of the service.

Because the Dukw is a special vehicle, it was constantly short of repair parts and tires. Wrecked Dukws were salvaged and cannibalized in a jiffy.

The thin hull is subject to many hazards on land and at sea, and requires constant and minute inspections. A small crack in a seam caused by collisions with ships or rough roads, a bullet hole from a Japanese sniper, or a cut in the hull acquired crossing a reef would, if not remedied in time, cause lots of trouble and possibly sink the vehicle.

The Dukw has insured its place in the postwar Marine Corps. Present plans call for a Dukw company as part of the organic transport of each division and brigade, and the Motor Transport School at Camp Lejeune provides a course in Dukw handling and maintenance as part of its regular training for mechanics and drivers. The war-hatched Dukw will be waddling along with the Marines for some time to come. USMC

In Brief...

All reserves and temporary officers must submit their applications for transfer to the regular Marine Corps on or before 15 October 1946. All eligible officers on leave or inactive duty or on terminal leave are included. Officers who have completed less than a year of commissioned service are not affected by the deadline.

The Navy Department plans to maintain NROTC units in 52 colleges and universities distributed throughout the United States. An appropriate number of Marine officers and enlisted men will be assigned to the units as instructors in Naval and Marine Corps subjects. Up to 16 and 2/3 per cent of the graduates may receive commissions in the Corps.

The United States Navy and the Army Air Forces have come to agreement on the adoption of the knot as the standard aeronautical unit of speed and the nautical mile as the corresponding unit of distance. A nautical mile, approximately 6,080 feet, is the distance covered by one minute of arc at the equator.

Members of the Marine Corps Reserve on inactive status may wear the uniform of their ranks and grade at ceremonies and memorial services. Reservists who have served honorably on active duty may, when on an inactive status, bear the official title, and during ceremonies wear the uniform of the highest grade they held during the war.

A large super-cyclotron, capable of producing five times the maximum energy of any atom smasher now in operation, will be constructed by the Navy's Office of Research and Inventions at the University of Rochester. The cyclotron will be the second largest in the world, accelerating protons up to energies above 200 million volts.

The number of appointments of midshipmen-at-large by the President of the United States to the Naval Academy has been increased from 25 to 75 annually. Appointments will be given to the sons of officers and enlisted men of the Army, Navy, and Marine Corps through competitive examinations of eligible candidates.

Airborne submarine detector equipment is now being used to explore vast expanses of inaccessible territory in search of hidden mineral deposits. The new method features an airborne magneto-meter of the type used to detect and track deeply submerged submarines. To date use has been restricted to making preliminary surveys.

Marines have returned to Paris, France, to stand guard at the American Embassy. Wearing the traditional M.P. brassards on their arms and .45 pistols on their hips, the Leathernecks are on loan from London where they were on duty at Adm H. Kent Hewitt's naval headquarters. The marines were needed to replace withdrawn Army personnel.

"Only 300 May Serve" may well be the new slogan of the Marine Corps Women's Reserve. Three hundred WRs are being retained in the Corps at their own request for a period not to exceed ten months. One hundred will be used to work on terminal leave payments for enlisted personnel while the other 200 will be detailed to special assignments.

It is unnecessary to pay any group or person for information about dead or missing Naval personnel since complete official data may be obtained from the Casualty Section, Bureau of Personnel, Washington 25, D. C. Unauthorized organizations and individuals have been promising additional information to that given by the Navy.

Trained for an assault on the beaches of Southeast Asia, nine full divisions of Indian troops were instructed in the tactics of amphibious warfare. Their operations were limited due to the lack of amphibious equipment, the major part of which was allotted by the British to the ETO.

The Navy plans to hold "open house" on Navy Day, October 27, at shore establishments and on board ships in port. Luncheons or dinners, religious ceremonies and parades will be part of the Days program. Coming on Sunday, the day will feature special memorial services for men who lost their lives at sea defending the United States.

Great Britain will maintain a Commando Brigade of 3,000 men as part of the peacetime Royal Marines. Special organization and techniques for amphibious attack, built up by the commando group during the war, will be preserved and still further developed. Every marine will perform commando service as part of his regular duties.

Fletcher Pratt's

THE Marines IN THE Pacific War

Chapter 2

OPERATION PESTILENCE

THERE was a turn-to at 0200 for breakfast, which was large and accompanied by the type of conversation imagined to be humorous by men under strain. By 0400 it was growing faintly light; the fleet split into two groups right and leftward of the dark truncated cone of Savo Island where it seemed to float in the still water. Not a sound nor a movement came from the enemy as the ships shouldered their way in. "I can't believe it," remarked a lieutenant aboard the flagship. "I wonder if the Japs can be that dumb." He thought it might be a trick of some kind.

Of all nations, the Japanese possess the widest and most successful fund of experience in beachhead operations, beginning with the Chinese war of the 90's and descending in unbroken sequence through the Russian conflict, the elaborate operation against Tsingtao in 1914 (they actually took the place three times, successfully making one type of landing and then drawing off to try it again in another fashion, using the unfortunate Germans as guinea pigs) and the long succession of operations on the China Coast during the 20's and 30's. In Malaya, the Philippines, all through the Indies, they had in this war demonstrated that they knew practically everything about the technique of converting a sea borne invasion into a successful land campaign. This had not escaped the attention of our Marine Corps planners. It was expected that an enemy who knew so much about the offensive across beaches would also understand the defense. The landing force had been warned to expect obstacles at the shore and interlocking belts of fire from machine guns carefully concreted into position along Tulagi, an island shaped like a banana, lying northwest and southeast.

Yet when Edson's Raiders charged from their boats onto "Beach Blue" about two thirds of the way up the banana with the steep slope of the island's central keel towering over their heads, there was only a handful of bullets peening past, only one man hit. The whole lagoon was still rolling with smoke and thunder, the single small Jap boat that had been found was blazing against the shore, an oil dump over on Guadalcanal was burning with smoky flame, and the wreckage of five float Zeroes sinking at the seaplane ramp on Gavutu. (Only one of them had left the water and that was sent instantly tumbling back by a cruiser's guns.) Our own planes were weaving an intricate pattern overhead as they dive-bombed and strafed anything that looked like movement or a gun position. Edson's first wave consisted of Cos B and D; they organized rapidly and began to climb the rough, wooded central mountain, keeping clear of the trail along the shore, which was commanded by lofty cliffs that would almost certainly hold dug-in Japs. Two more companies followed in 15 minutes; all four strung out across the island and began working down through the rocks and trees in a southeasterly direction while LtCol Harold E. Rosecrans' 2d Bn of the 5th Regt came ashore.

About three-quarters of a mile from the landing point the central spine of the island runs out into ravines and small flats with limestone hills rising from them, steep and irregular. This region held whatever residence and business buildings the islands had, and a "phase line" had been set just where the down slope begins in order to permit a halt for reorganization. No reorganization was necessary, but as the advancing troops reached the phase line it became apparent that the Japanese also had it on their maps. Sniper fire struck up sharply and was seconded by mortars. There were casualties, including the commander of Co B, and on the south flank of the island a little hill held a whole concentration of machine guns which had not been in the least damaged by the preliminary bombardment and which opened fire with the greatest energy. There was a good deal of battle among Edson's Raiders. They spread out, took cover, and after about an hour of inching forward got the machine guns on the hill under control by means

Part II: The odds that beset the Marines during the early days on Guadalcanal

of rifle and grenade. The Japanese kept up an intense fire and casualties began to accumulate, but their defense was strangely passive. They made no attempt to move, waiting for the marines to come dig them out.

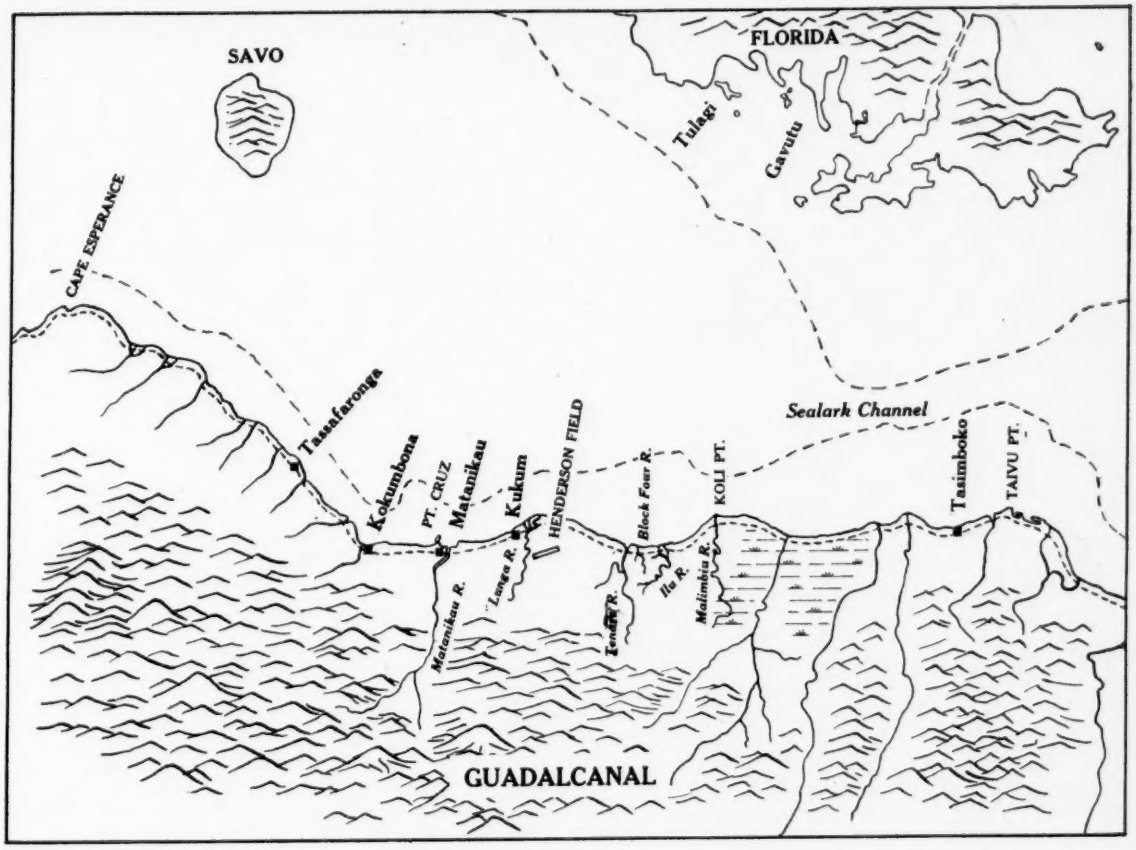
This took time—more and more of it as the Raiders on both flanks of the island worked down into the cricket ground area, which is dominated by a small hill on the west and a large one on the east. On the southern wing Co C was halted at this first hill; the fire became so heavy that the men could not move forward, nor from the configuration of the ground could they work around. On the northern side it was as bad. Among the accidented ground beyond the phase line our men encountered Jap snipers tied into trees, under houses, behind rocks; with machine gun fire to cover them and the limestone cliffs honeycombed by tunnel mouths from which more fire covered the machine guns. The Japs tactics were as good as static tactics can be. The snipers would lie doggo till the point of an advance went through and maybe part of the main body, then let them have it in the back. There was no food except C rations, but not many marines were bothering with that, though it began to come on twilight and simultaneously to be evident that Tulagi would not be conquered that day. Preparations for the night were made by installing two companies of Raiders on the north shore near the poisonous area, two more on the hill west of the cricket ground and down to the shore beneath it and bringing up a company of Rosecrans' men to form a link between, pretty well back, since they tried three times unsuccessfully to clear up a ravine north of the cricket ground.

OUTPOSTS were set and the men lay down where they were to get what sleep they could. They did not get much; as soon as the tropical night and rain closed in the Japs pulled their trick out of the hat. They sortied from their caves and pushed out in all directions like the fingers of a spread hand, using every trick in the book—firing to draw fire which was returned by grenades in the hands of men who crept forward silently; screaming wildly, using knife and bayonet. On the southern flank they got between the two companies of Raiders and pinned one back against the beach; at the center they lapped around both ends of the hill west of the cricket ground and made five separate, savage attacks on it. Twenty-six dead Japs were found within stone-throwing distance of our line there by morning. When sunlight drove the enemy back to their holes the Raiders were tired men.

Yet they were not so tired or so beset as Maj Williams' Parachute Bn on Gavutu. The landing there was not made till noon in order to be sure that the supporting ships and planes would be clear of their tasks on the more essential islands. Gavutu rises sharply on all sides and is so surrounded by coral so close to the surface that there is only one avenue of approach, toward the seaplane ramp and tier at the northeast corner. *San Juan* with the destroyers *Monssen* and *Buchanan* fired an intensive five-minute preparation; the dive-bombers came over and gave the place ten minutes more, apparently doing very well, for they visibly knocked out a three-inch gun on a hilltop and at several points fires sprang up. But as the boats charged in they found the seaplanes ramp had been dug to tangled blocks of concrete by the preliminary shelling; no place to land. They had to angle rightward, toward the dock. The first boats got in all right and the men out of them, but then down came a storm of fire that instantly shot down one man in every ten. The remainder were pinned under the lee of the six-foot pier, being shot at from trenches across its base, from the hill on their left flank and from Tanambogo Island to the north.

ONE boat did manage to get in a little leftward at the base of the slip and it fortunately contained some mortar men, who laid their fire with admirable accuracy on the trenches from which the most serious opposition was coming. By 1400 the marines were able to get up on the pier, reach land and rush in a handful at a time. They spread out up the steep slopes of Gavutu, whose surface was quickly won ,though not without more casualties from the caves of Tanambogo. Maj Williams had been hit; his successor asked for dive-bombers on the other island and reinforcements to attack it, which move he would support by mortar and machine gun fire from the place he already held. The bombers appeared at once and gave Tanambogo a ten minute workout, while the two destroyers circled the place at close range, firing at everything they could see. When they got through there was not a tree left on the island and there was a good deal of smoke from the fires they had set. The parachutists were meanwhile spreading rapidly over Gavutu and had the American flag up by 1800.

The reinforcements came a little later, a company of the 2d Marines in three landing craft, trying for the north shore of Tanambogo. It was falling dark and the brilliant blaze of a burning gasoline dump rose across the beach; as the boats came in they were silhouetted against it and received so terrific a concentration of machine gun fire that two were driven off again and the third only landed part of its people before being also forced to pull out. On Gavutu, meanwhile, there was a steady increase of sniping as the sun went down and in the night the experience of Tulagi was repeated, Japs popping out



of their holes everywhere to snipe and throw grenades, with the additional trouble that a lot of the monkeys swam over from Tanambogo to the pier where the boats had landed and fired into the rear of our positions and the dressing station.

There was a good deal of confusion both there and on Tulagi during the night and somehow the casualty reports got mixed up so that when they reached Gen Vandegrift they said the Raiders had lost 29 per cent of their men and the parachutists between 50 and 60 per cent. BrigGen William H. Rupertus, deputy commander of the division, in general charge of the operations on these small islands, asked for reinforcements.

The reserve afloat was theoretically under the control of Adm Turner, but the request gave Gen Vandegrift a good opportunity to reclaim them by setting them ashore. He accordingly assigned two additional battalion landing teams to Rupertus for dawn of the next morning, at which time the men of the Rosecrans command who had not reached the front on Tulagi the day before shifted toward the southern tip of the island. They and the Raiders worked along both shores, cleaning out caves one by one, and eventually got into positions from which they could put fire from three driections into the main Jap concentration area. By mid-afternoon they had the place under control, through three separate sweeps across the hills the enemy had occupied, each producing its quota of fresh Japs.

Even with the arrival of the two additional battalions Gavutu and Tanambogo were by no means done. The former was so honeycombed with caves and tunnels as to constitute a single big stone fort. Heroic and impossible deeds were necessary to get the enemy out of them—like that of Capt Harry Torgerson, who all day long kept running up to throw packages of dynamite with five-second fuses into these holes, while covered by rifle fire. The task was complicated still further by enemy fire from unconquered Tanambogo and it was not until late in the afternoon of that second day, 8 August, that a successful landing was made there under cover of still another naval bombardment. Two tanks accompanied the landing; one of them got ahead of the accompanying infantry, the Japs stalled it with an iron bar thrust into the treads and burned it out. But the other led a good advance, some of the parachutists joining by means of the causeway from Gavutu, and by 2100 of the second day organized resistance on Tanambogo was beaten down.

The harbor islands had cost 108 killed, 140 wounded. The Japanese dead were of the order of 1500 (500 of them on Tulagi) of whom 600 were the conscript laborers whom the marines

instantly named "termites," elsewhere miserable cattle but in the harbor of Tulagi fighting men of a valor and persistence not inferior to the best troops of the Empire. There were only three prisoners taken on Tulagi, only a few more on the other islands; the last man of a machine gun crew, unable to operate his piece alone, invariably killed himself. Those who were taken said that about 70 more had escaped by swimming over to precipitous Florida Island, and as these were a source of potentially serious trouble, strong patrols were put onto Florida to hunt them down.

II

WITH its towering mountainous center Guadalcanal is a beautiful island from the sea and the day was so calm that all the cargo nets could be hung down the sides of the transports and used as ladders. The firing died away, the boats lined up and dashed for a white beach across which white waves broke and there was not a sound from the shore, on which bombardment had now ceased, 25 miles away across the water. There was no firing at the shore either; the two battalions of the 5th Regiment that were in the first wave formed rapidly there and pushed inland some 500 yards to where a little stream runs parallel to the beach to fall into the Ilu, forming a natural beachhead area. The boat pool functioned perfectly. The 1st Marine Regiment (Col C. B. Cates) followed the 5th ashore and as soon as it arrived LtCol Maxwell's battalion of the 5th crossed the Ilu by the sandbar at its mouth and began working along the shore. Cates' regiment slanted inland, taking a compass bearing on Grassy Knoll and cutting a path for transport through the lush jungle and the kunai grass which is as tall as a man. By noon the whole beach was a rubble from the passing of vehicles. Antiaircraft guns were ashore and being emplaced. Tregaskis, the correspondent, found one of the Australian guides leaning against a tree and consuming a coconut, while saying, "I'm exhausted by the arduousness of landing against such heavy fire."

It would be a little after noon that the first Jap bombers came, 25 of them, very high up, which dropped only two or three eggs and then droned off to the southward, apparently looking for our carriers. They did not find them and three of the Japs were shot down. Ashore the advance went on—somewhat apathetically in Maxwell's direction though he had the more open ground. He kept expecting to be counterattacked and threw out front and flank detachments in momentary anticipation of battle. Night found both forces up to the Tenaru* with the bridges for the 1st Regt just getting into position and some of the minor units a bit scattered due to the inexperience of young officers in conducting operations through such country.

Night also found confusion on the beachhead. There had been a second air raid in the afternoon in which the destroyer *Mugford* was hit, and this forced a delay in getting goods ashore, but by 2300 there was already so much material on the beach that it could neither be handled nor added to. The pioneer battalion had labored itself into a state of exhaustion since dawn; the infantry reserve afloat, which might have furnished some of the muscle, had been drawn into the sudden whirlwind that blew up on Gavutu and Gen Vandegrift dared not pull any of his combat troops out of the front line before making contact with those (estimated) 5,000 Japs. There was nothing to do but knock off unloading operations for the night. The casualty report for Guadalcanal that day was one man who cut his hand while trying to open a coconut.

In the morning the advance took up again. The jungle grew heavier in the sector of the 1st Marines and their progress was slow but they got hold of a couple of "termite" prisoners. By noon these had been screened through the interpreters, separately, and it became clear that an astonishing overestimate of the Japs on the island had been made. Their force did not exceed 600 fighting men; and these had fled to the westward, way beyond the Lunga, when our cruisers came in. Gen Vandegrift inquired about the latest reports from Maxwell's battalion. It was still making the same cautious advance through the coconut plantation, security detachments out wide. Col Hunt, CO of the 5th Marines, went to the front in person and during the afternoon pushed this formation more rapidly forward on a narrower front, so that by 1500 the leading elements were across the Lunga on a Jap-built bridge and moving toward the native village of Kukum and the lagoon that fronts it. Here a few bullets began to whistle among the trees. The battalion spread, went forward, shot a few Japs and in 30 minutes had the rest driven out.

Col Cates' command had meanwhile worked out of its jungle into a region of open grass and had speeded its pace. Grassy Knoll, as one approached the place, became more and more a dominant terrain feature but a feature of such size that a corps four divisions strong would have been none too large to occupy it; clearly not this but the line of the Lunga was the place

* It turned out that the river appearing on all the Marine maps and bearing the name of the Tenaru in all the early dispatches and war correspondents' stories was not the Tenaru at all. After the Army troops reached Guadalcanal they found this out and designated the river in all their correspondence and releases as the Ilu. But it was not that either; the correct name of the stream was Alligator Creek, and both Ilu and Tenaru are branches of the same stream. It seems preferable in view of the fact that the Tenaru received so much publicity under that name to keep the designation here.

The jungles of Guadalcanal provided a backdrop for this picture of MajGen A. A. Vandegrift, his staff, and most of the regimental and battalion commanders.

to hold. Almost as an afterthought the 1st Regt took the airfield, where it found elaborate dependent installations, two radio stations, a pair of ice plants, an air compressor, a power plant and camp buildings with yesterday's breakfast for the garrison still in the kettles. Among the abandoned weapons were some Springfield rifles with markings showing they had come from Guam and even a few pathetic personal souvenirs belonging to marines who had formed part of the Wake Island garrison. The fact was noted for future reference.

That day Gen Vandegrift had much of the unloading done on the beaches west of the Ilu, which speeded matters somewhat, but both this area and the original landing area quickly became overloaded and there were still nowhere near enough men to dispose of the goods coming ashore while the amount of work done by those on the job began to fall off through mere human fatigue. At 1230 there was a truce to unloading when a formation of 40 Jap dive and torpedo bombers came in low over Florida Island to stage a fierce raid. They seemed to have been after transports mainly, but the warships over toward Tulagi surprised them with the strength of their AA screen and the Japs tried to make their pull-out low among the transports, with the idea that our gunners would not fire at them. Their mission was not a success. Fighters from the *Wasp* rode them in and took a heavy toll; they were wrong about the pull-out business, as the transports opened a hot concentration of automatic fire which brought 12 of the planes down and almost all the rest were picked off by the fighters.

But one in her death-throes dived into the open hatch of the big transport *Elliott* and set a fire that could not be put out so the ship had to be scuttled toward twilight with most of the supplies for a battalion of the 2d Regt. Another got a torpedo hit on the destroyer *Jarvis* and that was worse than it looked at first; the ship was able to steam out under her own power but was never heard from again—either broke up or a sub got her.

After the shooting was over and outposts set for the night a message came summoning Gen Vandegrift to a conference aboard the flagship. He took off for it with a pardonable feeling of satisfaction. All objectives had been secured and the over-all casualties could be regarded as very low even though those on Gavutu had been heavy. The ship-to-shore work on which marines had been studying for so long had gone off with an admirable smoothness that

completely justified both the method used and the Higgins landing boats the Corps had forced a somewhat unwilling Navy to accept. Considering the amount of their training the performance of his men had been astonishingly competent.

True, there had been errors and surprises. The Japs were expected to be fanatics, but even so the fierceness of a resistance which genuinely went to the last man was somewhat unexpected. A few of his officers had not shown up too well under pressure. The arrangements for handling supplies after they reached the beaches were fairly bad and it would evidently take a good deal of time to get everything ashore. The advance information and intelligence was inadequate, especially with regard to Guadalcanal, where some of the combat troops might have been used in solving the supply difficulty if we had known how few the enemies were. The mistake about Grassy Knoll, which sent the 1st Regt on its toilsome march, could have been avoided with good air photos. Still, the General had every reason to feel satisfied that his marines were living up to the ancient tradition of being first when the chips were down.

III

A JAPANESE "appreciation" of American methods for the benefit of the officers who would have to fight us remarked some time later:

"The enemy is extremely sensitive to bombing and just a few good hits are enough to rout several hundred of them."

The remark was evidently the result of exterior observation; but it could have been made by an invisible spy aboard the flagship *McCawley* 12 miles east along the Guadalcanal coast that night. Adm Crutchley had come down aboard *Australia*, leaving the rest of his cruisers on a sentry stretch north of Savo Island. He looked tired and haggard and so did his supporting cast. They had not been able to claim more than two or three hours sleep since the night of 6 August, what with stand-tos for fire in support of the fighting on Tulagi and Tanambogo. Adm Turner looked tired and was a good deal worried by the loss and damage in the air attacks. Two destroyers out of action and a transport gone may not sound like a great deal to an outsider, but the losses were irreplaceable, there were no more ships behind these, not back in the States nor anywhere. At the present rate of attrition it would not be long before he was unable to conduct an operation of any kind. A wise commander does not wait till a situation which promises such disasters overtakes him, but applies his preventative when the indication becomes clear.

Adm Fletcher was tired; anxious to get his carriers out of danger, which (he considered) they had escaped from the 40 bombers only through sheer good fortune. A recon report told of a powerful Japanese task force approaching. It would enter Rekata Bay at Santa Isabel and presumably deliver a combined surface and air torpedo attack the following day. In fact it was not improbable that the surface attack would come before dawn, which might mean more losses. The transports were already in motion; the sense of the meeting was that all the ships must be withdrawn, not on D plus 4 as originally intended, nor on any more distant date because of trouble in handling supplies on the beach, but tomorrow, D plus 2.

Gen Vandegrift was thunderstruck. It was the argument that had taken place at Koro all over again, but now under worse conditions, since his men were already committed ashore, he could not withdraw if he wanted to. There was not even enough food for them to eat, to say nothing of ammunition and equipment items—hardly any shovels at all, for instance. The enemy ashore was off balance but quite capable of reorganizing and being reinforced.

There were probably some fairly bitter things said; but once more it was a case of each commander making the decisions for his own force since Ghormley, now in Noumea, could not be reached. The end of it was the beginning; the ships would withdraw. The Marine commander left at a quarter before midnight, borrowing the minesweeper *Southard* to take him over to Tulagi for a conference with Gen Rupertus on what the supply situation was at his side of the lagoon. Crutchley returned to the *Australia* and she turned her prow back to the north under pouring rain.

On Guadalcanal that night everybody was being drenched by the same rain, since the day's movement had carried them so late and far there was no opportunity for the shelter-halves, which were their only tents, to catch up from the beachheads. It would be after Gen Vandegrift got aboard his minesweeper that the sound of an airplane came from overhead. A parachute flare burst out in ghostly green and from the transports, long red fingers of tracer reached up into the sky toward it, then gradually lowered their trajectory. Communications at the command post reported a message from the *McCawley:* "Heavy enemy fire on Beach Red." Out in the lagoon another flare dropped; on its heels, far off to the north near Savo Island, arches of red and white fire sprang out of the dark. A ship was hit and began to burn like a torch; the multiple repeated thunder of a naval battle rolled across the sea and some marines on guard at Lunga Point agreed that nothing but our big battleship *North Carolina* could rouse such turmoil.

"Enemy attacking Beach Red in force," said

Continued on page 47

Coordination of Supporting Fires

Centralized control of supporting weapons by the FSCC within division and higher headquarters will achieve closer support and greater effect for the infantry elements in an operation

As a result of the past war many doctrines concerning certain phases of amphibious warfare have resulted. Many have been universally accepted and tested in combat with varying degrees of success. Others were born of compromise based on individual experiences and experiment. It is because of such conflicting doctrines and individual differences that the GAZETTE *feels that the accompanying article, the result of careful study in the Marine Corps Schools and combat development, represents the most up-to-date significant approach to a problem which should prove of considerable professional interest to its readers.*

IN THE conduct of the amphibious attack the problem of insuring effective delivery of supporting fires is complicated by several factors which are not encountered in normal land operations, or which are present only in a limited degree. These factors may be summarized as follows:

a. Although air and naval gunfire are the principal supporting weapons in the early stages of the landing attack neither of those arms is under command of the Landing Force Commander, and the provision of those fires is dependent upon request and liaison alone.

b. The part played by field artillery, as the landing attack progresses, is subject to continual change progressing from complete incapacity at the beginning of the assault to a position as the dominant supporting arm when the necessary artillery material is in place ashore.

c. Control of the air and naval gunfire arms involves techniques which are dissimilar to each other and to the techniques related to control of artillery.

d. The concurrent employment of the three arms in support of the landing attack involves a succession of prompt decisions in order to resolve conflicts which arise in the distribution and delivery of fires.

The task of employing the supporting arms in a manner best calculated to overcome the complexities outlined above is a command responsibility which devolves upon commanders at all levels. In the discharge of this responsibility each commander may assign such duties to subordinates as he desires but, as in all other functions of command, the responsibility itself remains with the commander. To advise and assist him and his executive staff in the coordinate employment of supporting arms, special staff officers are provided at division and higer levels. Liaison officers provide similar advice and assistance to regimental and battalion commanders and their executive staffs. In order to insure the most effective employment of these special advisors in the coordination of the supporting arms, it is essential that there be some formalized agency within each headquarters. In the division and higher echelons this agency is termed the Fire Support Coordination Center (FSCC). (See Figure 1.)

The Fire Support Coordination Center is an installation established within division and higher headquarters to facilitate coordination of the supporting activities of artillery, aircraft and naval gunfire, and to provide the commander with coordinated advice and recommendation on the employment of those arms. It is not an additional echelon vested with command functions nor is it charged with joint control or direction of the supporting arms. It is an advisory and coordinating body only,—its principal components being drawn from personnel already existing within the organizational structure of the headquarters.

In discharge of its responsibilities the FSCC is normally assigned the following specific tasks:

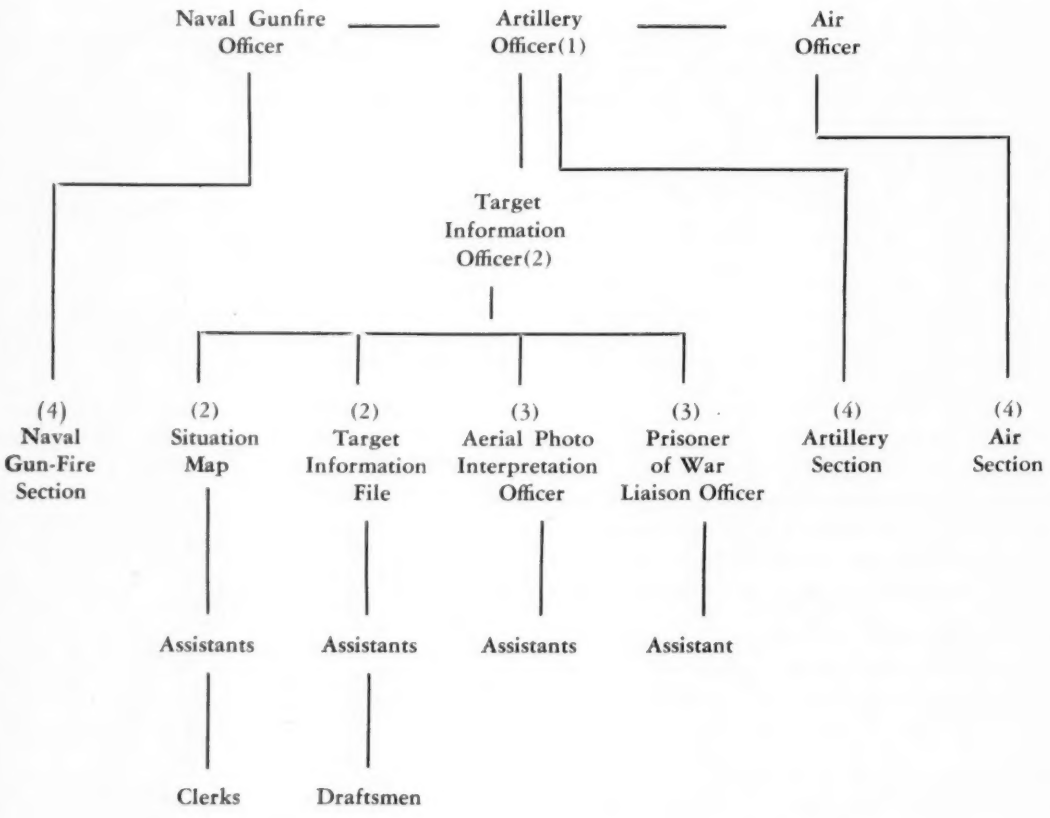
a. To provide the commander with coordinated advice and recommendation in order to insure the most effective employment of the supporting arms, both as regards planning and during the progress of operations.

b. To resolve conflicts arising incident to the conduct of fire support operations, in accordance with authority delegated by the commander.

c. To maintain a comprehensive record of targets confronting the unit, together with an analysis of their characteristics and an estimate of the most effective means of attacking them.

The Fire Support Coordination Center is an organization developed around the representatives of the air, artillery, and naval gunfire arms. Whatever the echelon, this basis organizational framework holds true. On division and higher levels the representatives consist of the special staff officers of the arms concerned. On lower levels the task is discharged by the appropriate liaison officers. While their functions within the FSCC do not in any

Fire Support Coordination Center



(1) The Artillery Officer coordinates plans and recommendations originating in FSCC. He is responsible for operation of the FSCC and renders decisions related to coordination of delivery of supporting fires in accordance with authority delegated by the commander.

(2) Personnel from G-3, Artillery, NGF, and Air Sections as required to maintain a current Target Information Map and a Target Information Card File.

(3) Assigned from the G-2 Section.

(4) Special staff sections which perform their normal planning and advisory functions. While the heads of these sections participate in the FSCC in its capacity as a coordinating medium, the sections themselves are not included in the FSCC framework.

FIGURE 1.

way interfere with their special staff status, Artillery, Naval Gunfire, and Air Officers participate in the coordinate operation of the Center and are co-equal within its structure. The Artillery Officer, since his is the dominant supporting arm, is normally assigned the responsibility for coordinating all activities within the FSCC. He is in charge of the internal organization and administration of the FSCC and coordinates the plans and recommendations which are considered therein.

Within the FSCC there is included a Target Information Officer who supervises and is responsible for the functioning of four related sub-sections, namely:

a. Target Information Situation Map
b. Target Information Card Files
c. API Sub-section
d. POW Sub-section

The Fire Support Coordination Center is placed in operation as soon as orders are received for an operation. At that time the Target Information component undertakes the assembly of all available target information from whatever source obtainable and indexes that information in readily accessible card files. Concurrently the Artillery, Naval Gunfire, and Air Officers work in close conjunction in the preparation of their respective plans, referring continuously to the combined target information assembled by the Target Information component. When the separate Artillery, Naval Gunfire, and Air plans are prepared, and prior to their submission to the commander for approval, the Artillery Officer, as coordinator of the FSCC, insures that all possible targets are covered, that no duplications exist other than those which appear especially desirable, and that there will be no unwarranted interference by one supporting arm with the other.

During the conduct of the operations subsequent to the landing, the FSCC assists the commander and his executive staff in coordinating the operations of the three supporting arms. When conflicts or questions arise during the progress of operations concerning the manner of employing the supporting arms the Air, Naval Gunfire, and Artillery Officers study each problem as it arises, and, under the coordination of the Artillery Officer, prepares a recommendation for resolution of the problem. Depending upon the degree of authority delegated by the commander these problems may be resolved within the FSCC itself and action taken by the Artillery Officer in his capacity as coordinator of the FSCC.

Likewise, during the progress of operations the Target Information component of the FSCC maintains a continuing record of targets confronting the unit, securing the necessary information by exploitation of all available sources including intelligence agencies organic to the Landing Force as well as reports of air and naval gunfire observers. This information is recorded in the Target Information card files and posted to the Target Information Map. Based on this information the participants of the FSCC are prepared at any time to provide general advice for the commander concerning the most effective means of attacking the targets in his front. Such coordinate recommendations as are prepared are presented to the commander by the Artillery Officer. US MC

Truk Was a Phony

Continued from page 16

Hara told me he had never believed it possible for his forces to throw an invading force back into the sea. The best he hoped to do was to hold out, in his caves for some time. In June 1944, he thought he could have continued organized resistance twice as long as the three weeks Saipan held out. By December, he thought he had strengthened his positions sufficiently to hold out for three to six months. But he knew that "holding out" would not have been enough to deny the use of Truk to the onrushing American offensive. Truk was denied any usefulness to the Japanese without our ever landing there, and it could have been made useful to the Allies in a week's campaign in which only moderate losses need have been expected.

This was the extent to which Truk fell short of its awesome reputation.

In the 14 months after the last surface ship ran the blockade, only seven submarines got through. The last of these, the huge I-14, got in on 7 August, the second day of the atomic era. She carried two reconnaissance planes (Myrts) to be land-based, but they were never flown because Truk's fields were all pocked with craters. There were only five other planes operational: three Zekes, a Nate, and a Rufe. There were only 217 trucks and 21 troop carriers for road transport; ten passenger cars and 94 hand carts. From these statistics it is easy to see that Truk was no more a fortress than a papier-mache set for a Hollywood movie.

Small wonder that Hara told his captors: "Night after night I would hear the American radio talking about Truk as 'that great Japanese bastion' or 'the Gibraltar of the Pacific'—and I would shudder for fear the Americans would find out the truth." US MC

To the Editor

The GAZETTE wants its readers to use these pages not only for comments and corrections on past articles, but also as a discussion center for pet theories, battle lessons, training expedients, and what have you. This is not a "gripe" column; what is wanted are contributions designed to promote discussion on topics of professional importance to Marine Corps policy and thought. Correspondents should include their name, rank, and address, but the signature will be withheld if requested.

Battle for Saipan . . .

DEAR SIR:

To set the record straight and also to provide a permanent basis upon which to judge the relative accomplishments of those infantry divisions participating in the Battle of Saipan, it is hoped that your publication can persuade Gen Holland M. Smith into doing an article on the operation.

The 27th's Battle for Saipan, appearing in the September INFANTRY JOURNAL, would have been far more interesting and informative had it presented in proper perspective the activities of all three infantry divisions as part of the V Amphibious Corps rather than the 27th Division alone.

NAME WITHHELD.

ED: The GAZETTE is always interested in securing articles from military writers which describe in a fair and authentic manner the activities of infantry units in amphibious operations. It is felt, however, that the Saipan operation has been well covered, both in the GAZETTE and other publications.

Garbled Quotes . . .

DEAR SIR:

In the August issue you ran a quiz which credited "Retreat Hell! We just got here!" to Sgt Dan Daly. In the numerous accounts I have read of this phrase I have always seen it credited to Capt Lloyd W. Williams and it took place on June 3, 1918 not in March as stated in the GAZETTE.

Sgt Daly, I believe, has been credited, among other things, with the phrase "Come on you guys, do you want to live forever?"

Sincerely yours,

JOHN L. HANCOCK.

ED: The GAZETTE admits its error. Both quotes were used in the original quiz; when it was edited down, the wrong answer remained with the right quote.

Foreign Military Publications . . .

DEAR SIR:

. . . I have only one suggestion to make concerning the GAZETTE. I believe it should contain certain articles from foreign publications which might prove of interest to the Corps. . . . Such matters as foreign defensive installations, organization of reverse slopes, etc., although not approved by MCS could well be included. In general, however, I feel the GAZETTE is to be complimented for its professional value, interesting make-up, and general quality. Yet I believe that unless a publication constantly improves it will deteriorate in the long run.

In addition I believe that one of the primary functions of the GAZETTE is to stimulate and maintain the interest of the Reserve in the Corps.

RICHARD F. SCHANZLE,
Captain, USMCR.

ED: As much as the GAZETTE would like to digest articles from foreign military publications, our staff is not equipped to do the necessary scanning and translation. Our present Military Digest is selected on the basis of recommendations by the appropriate subordinate schools of the Marine Corps Schools which consider not only American but also several British and Canadian publications. There will be more on the Reserve in the near future.

Spare the Gunny . . .

DEAR SIR:

What's happening to the Marine Corps when they threaten to do away with the established and time-honored NCO ratings? It's enough to bring a blush to the atabrine tanned cheek of any self-respecting gunnery sergeant to threaten him with the *nom de guerre* of "First Class Non-Commissioned Officer."

The Marine Corps lost something when they dropped distinguishing ranks and insignia of marine gunner, quartermaster clerk, and so on, in favor of plain warrant and commissioned warrant officers. More will be lost if the Marine sergeant in all his unique ramifications, probably the most legendary grade in the American military, passes from the contemporary scene.

Are our field musics destined to become mere buglers?

OLD TIMER.

ED: Contemplated changes in NCO grades are still in the planning stage.

The Development of AMPHIBIOUS TACTICS in the U.S. Navy

By Gen Holland M. Smith (Ret'd)

1940-1942 Preparing Amphibious Offensives

ON 1 SEPTEMBER 1939, the German Army invaded Poland and demonstrated to the world the "blitzkrieg" tactics of combined arms. Two days later the British and French joined the conflict and World War II had begun. The effect of these happenings was immediately apparent throughout the world. On 8 September the President of the United States proclaimed a limited National Emergency and called for strengthening the national defense within the limits of peacetime authorization. The Navy promptly took steps to protect our neutrality and to intensify our peacetime readiness program. It was realized that the Navy would be called upon to employ amphibious tactics at an early date in the event of war. The mobilization, organization, equipping and training of amphibious forces was accordingly accelerated. The production and conversion of assault transport vessels, landing craft and other material required in landing operations was initiated and given a high priority. War plans were concurrently developed for possible amphibious assault operations.

The urgency resulting from the international situation gave new impetus to the development of amphibious forces and tactics. Simulation and the employment of constructive forces and equipment gave way progressively to detailed and exacting realism in training programs. On 30 June 1939, the total strength of the Fleet Marine Force, the Navy's amphibious arm, was 4,525 officers and men. This was doubled in a year and tripled in two. By June of 1942 two U.S. Army infantry divisions and two Marine divisions had been trained and were in a condition or readiness for participation in assault landing operations.

Each successive development in world events during this period acted to draw the United States closer to war and to increase the pace of our readiness program. We began to abandon our neutrality as early as November 1939, when the Arms Embargo was repealed in favor of a cash and carry policy. The German's success in their spring offensive in Western Europe ended with the British evacuation at Dunkerque and the French surrender in June 1940. On June the President reiterated the condition of National Emergency. On 19 July, Congress authorized a two-ocean Navy. This act involved the largest naval expansion in history. It meant a 70 percent increase in naval strength, or 1,325,000 tons of new shipping and a commensurate increase in Navy and Marine Corps personnel.

In September 1940 bases were acquired in the Western Hemisphere from the British in exchange for 50 old destroyers. This transaction strengthened our strategic position and relieved us of the necessity for seizing certain vital advanced bases in the Atlantic. It gave us time in which to increase our preparedness. In the same month the Selective Training and Service Act was approved. On 27 September a new threat arose. Japan joined with Germany and Italy in a triple Axis alliance.

On 15 October, the Commandant of the Marine Corps ordered the mobilization of 23 Marine Corps reserve battalions and by 9 November these units were on active duty. The crucial "Battle of Britain" raged in English skies throughout the winter of 1940-1941, and the long, fluctuating desert campaign began in North Africa. In April the Germans opened their Balkan offensive against Yugoslavia and Greece. On 27 May 1941 the President declared that an Unlimited National Emergency existed. At that time, there were 25,000 officers and men in the Fleet Marine Force. In the months that followed repeated requirements to dispatch amphibiously trained Marine units overseas for the defense of vital bases handicapped the preparation of an amphibious expeditionary force for offensive operations. The 1st Provisional Marine Brigade was dispatched to Iceland in June 1941, and a year later the 2d and 3rd Marine Brigades had been sent to Samoa in the Pacific. Germany invaded Russia in June and the United States protested the German sinking of the destroyer

Parv V: Three years of experiment in landing doctrine before Pearl Harbor

Robin Moor. The Atlantic Charter was signed in August. By September the U.S. Navy had been ordered to shoot German war vessels on sight.

War came on 7 December 1941 and in a brief period the United States suffered the extensive damage to the Fleet at Pearl Harbor, the loss of Guam, Wake, and, by May, of the Philippine Islands. By the end of January, the Japanese had landed in New Britain, New Guinea, and the Solomons. In February the British Naval Base at Singapore fell to the enemy, and the Dutch East Indies were being captured by the Japanese.

During this critical period while the Navy, on the defensive, struggled to maintain the precarious balance of naval power in the South Pacific, we initiated our first offensive action. On 1 February 1942, a carrier raid was undertaken against the Marshalls and Gilberts. This was followed, on the 24th of the same month, by a similar raid on Wake and Marcus Islands, and on 10 March by a strike at Lae and Salamaua in New Guinea. On 20 May, the forward echelon of the 1st Marine Division departed for New Zealand to join the newly established South Pacific Amphibious Force and to train further for offensive operations. On 6 June the Japanese advance eastward across the Central Pacific was halted in the Battle of Midway. On 1 July around the world in North Africa the British retreated to El Alamein, and the United Nations were at the nadir of their fortunes in the European war. From that time on we assumed the offensive throughout the world. On 7 August 1942, the 1st Marine Division (Reinforced) landed on Florida, Tulagi, Gavutu-Tanambogo and Guadalcanal Islands in the British Solomons in our first amphibious operation.

Condition of Amphibious Readiness in 1940

Guadalcanal was the turning point in the Pacific war, but the earlier advent of the European war in September 1939 was the turning point in amphibious development. The lessons learned and gradual advances made between 1935 and 1940 were vigorously applied in the two years that followed. The doctrine initially published in 1935 had been refined in six fleet landing exercises. Experiments had been conducted for the purpose of developing landing craft suitable for putting troops ashore through surf, over bars and reefs, and through hostile fire. Effective shore bombardment techniques had evolved. Although the major deficiencies and needs in personnel and materiel, apparent during the conduct of the first six fleet landing exercises, were recognized and reported, the exercises were carried out year after year on an improvised and skeletonized basis. Urgency came only with the war. Peacetime conditions had not encouraged the forceful and critical approach to the maneuvers and experiments which was brought to bear by those commanders charged with preparing amphibious forces between 1940 and 1942.

Doctrine

The tactics in effect in 1940 prescribed effective methods for gaining the comprehensive intelligence required for planning purposes. Aerial reconnaissance and photography, submarine reconnaissance, and amphibious reconnaissance conducted in rubber boats had all been attempted in maneuvers. The standard procedure for planning called for the early designation of naval and landing force commanders, for close cooperation between them, for detailed planning by higher echelons well in advance to cover all phases of the preparation and execution of the landing, in order to assure the necessary coordination between the many participating forces. The necessary flexibility was gained by requiring the preparation of alternate plans. The established concept for organizing forces included a naval or joint attack force consisting of the following major elements in its task organization:

1. A Transport Group—containing the assault transport and cargo vessels necessary for embarking a combat-loaded landing force.

2. A Fire Support Group—containing the vessels designated to render gunfire support to the landing force.

3. An Air Group—consisting of support aviation elements.

4. A Mine Group—for sweeping the transport and fire support areas.

5. A Screening Group—for protecting the vessels and craft engaged in conducting the landing.

6. A Salvage Group—for the salvage and maintainance of small craft.

7. A Landing Force—organized as a mobile. striking force of self-sufficient combat elements for flexible employment.

The reinforced Marine division, which was the basis of landing force organization, consisted of three regimental combat teams, (RCTs) each containing three battalion landing teams (BLTs). Each infantry battalion was reinforced with artillery, tank, engineer, medical, and service units. The choice of equipment for amphibious operations was based on the mission assigned and the capabilities of the transports. The technique of unit combat loading had been developed, and joint training included a full-scale realistic dress rehearsal following the necessary preliminary individual and small unit training. The training prior to 1940, however, had not covered all phases of amphibious operations. The embarkation and loading phases were never stressed in maneuvers.

It was an accepted rule to embark the respective military and naval commanders—the landing force and naval attack force commanders, the

Marine division and transport squadron commanders, the regimental and transport division commanders, and the battalion and assault transport commanders—on the same vessels. Techniques were established in detail for coordinated naval gunfire preparations and continued support during operations ashore. Systems were in effect for rapidly disembarking troops from the transports into landing craft, the rendezvous and dispatch of the landing craft from the transport areas to the beach, and control of the landing craft in the ship-to-shore movement. Finally a procedure was also in force for the build-up of supplies on the beachhead for the support of ground operations based on the scheme of maneuver of the landing force ashore.

Landing Craft

In addition to the experiments and practice in landing craft employment during Fleet Landing Exercises 1 through 6, the Marine Corps Schools at Quantico, the 1st Marine Brigade of the Fleet Marine Force, while at its home base at Quantico, and its predecessors in the Marine Corps had been experimenting with landing craft for twenty years. Boards had been formed from time to time, one of which in 1931 tested shallow draft skiffs and boats used as rum runners. In 1933 the Navy Department had established a continuing board for the development of landing boats, and there was also a landing boat development board within the United States Fleet. A five-year experimental program had been initiated which called for the production and maintenance of 120 landing craft but did not contemplate full-scale production until a national emergency arose. All experiments were directed at developing landing craft with the following general characteristics:

1. Sufficiently *light weight* to be hoisted by ships' booms and davits.
2. *Small beam and bulk* for deck-storage aboard transports.
3. The desirable *length* was considered to be between 30 and 36 feet.
4. *Speed* of approximately 10 knots when loaded.
5. *Seaworthiness* and *stability* in the open sea.
6. The *ability to land* and *retract* from the beach.
7. A *steel hull free from projections* with protected propellers and rudders.
8. A minimum *draft* of 2 feet.
9. *Armor* for the coxswain, engine, and gunners.
10. *Light armament*—i.e. machine guns.
11. *Capacity* of not less than 18 troops and preferably capable of carrying 38.
12. Sufficiently *low fuel consumption* to permit 120 mile endurance.

The best landing craft developed prior to 1940 was the Higgins Eureka landing craft or the *LCP*. The 14-foot rubber boat was the best suited for surprise landings against difficult terrain. Tank lighters for transporting 10-ton tanks, 155mm guns, and other heavy equipment required by the landing force were also being tested.

The Development of the Amphibian Tractor

By 1940 experiment and practice had demonstrated that several types of landing craft and larger lighters were suited to the needs of amphibious warfare—i.e., they could carry men and equipment from ships to the shore through surf and against hostile fire. They were sufficiently fast and maneuverable, could retract from the beach under their own power and return to the transports to embark more troops and supplies. However, all types of landing craft had certain inherent limitations. There had to be a sloping beach for them to land on and there had to be a clear approach to the beach of sufficient depth to permit the passage of the boats. Therefore, such natural obstructions as reefs, which were found at most islands and atolls of the Pacific, greatly facilitated the task of defense against hostile landings. Only those shore areas where the conditions of ter-

From this alligator, designed by Mr Donald Roebling for rescue work in the Everglades, the amphibian tractor was developed.

rain and hydrography allowed the beaching of landing boats, needed to be defended in any strength. Conversely any equipment or technique which could be developed by an attacker for traversing natural or man-made obstructions and landing on unfavorable shore areas would give the unit landing the advantage of surprise and less opposition. The use of the rubber boat in landing exercises was one attempt to provide a solution to this problem. However, the rubber boat had its definite limitations. Its capacity was small, and it was difficult to handle. Practice landings showed that it was suited for limited reconnaissance missions or raids but not adapted for employment in any landing operation including major units and heavy equipment. The development of the amphibian tractor, or LVT, which began in the middle 1930's provided the solution and was one of the most important modern technical contributions to ship-to-shore operations. Without these landing vehicles our amphibious offensive in the Pacific would have been impossible.

The first amphibian tractor was designed and built in Lakeland, Florida, by Mr Donald Roebling, Jr. Mr Roebling, who had retired to Florida for his health, saw the need for amphibious transportation to perform rescue work in the Everglades. After several years of experiments in his own shop, he had patented and manufactured by 1938 the first model of the amphibian tractor or "Alligator," as he called it. It included all the essential features of the models now in military use throughout the world. The Commander-in-Chief of the Fleet saw a magazine picture of this first model and realizing its possible military applications brought it to the attention of the Commandant of the Marine Corps. Members of the Marine Corps Equipment Board were ordered to Florida to observe Mr Roebling's tractor in action and to discuss it with him. On 25 April 1938 the Board recommended the procurement of experimental tractors and on 18 May the Commandant of the Marine Corps made a similar recommendation. However, the Chief of Naval Operations, upon the recommendation of the Landing Boat Development Board declined to allot funds, already earmarked for critically needed landing craft and tank lighters, for the purchase of an amphibian tractor.

The Marine Corps made repeated recommendations for the procurement of an "alligator." Finally in April of 1940 the Commandant contracted with Mr Roebling for the production of three trial "alligators" and the Bureau of Construction and Repair, the Naval agency chiefly interested in landing craft development, procured an additional tractor for experimental purposes. The first aluminum "alligators" passed performance tests at Dunedin, Florida, and later at Norfolk, Virginia, in 1940 and demonstrated their usefulness in Fleet Marine Force maneuvers in the Caribbean. On 5 November 1940 the Navy ordered 200 steel amphibian tractors for the Marine Corps. Construction began immediately at Dunedin under the direction of Mr Roebling. By August 1941 the first LVT (1) had come off the production line. Changes were made in design by automotive engineers, Mr Roebling, the Bureau of Ships and the producers, and the second model, the LVT(2), which included airplane, tank, and truck characteristics came off the production line in 1943. The LVT(1) was first used at Guadalcanal and later in November of 1942 at North Africa. The second model was first used a year later at Bougainville and Tarawa. Armored and turreted models were based on the LVT(2). Further refinements and developments based on combat experience and continuous experiment have resulted in two newer models and two turreted armored amphibian tanks. On 30 October 1942 the Secretary of the Navy established a continuing board for the development of amphibian tractors. A variety of tasks including personnel and equipment carrying, demolition, engineering, rocket launching, and field artillery missions were designed for the LVT.

Naval Gunfire

The basic problem in shore bombardment is to develop the most effective fire for the support of troops and the destruction of land targets with the ships, guns, and ammunition available, and to devise methods for controlling this fire and for coordinating it with other supporting arms and activities during an assault landing. The mission of naval gunfire is to replace the artillery normally available to ground forces, which is unavailable in landing operations, in destroying personnel and weapons capable of opposing the landing. The naval gunfire support in any specific landing operation will vary with the terrain, tactics, size and disposition of the defending force, and the amount of ammunition available. By 1940 the following distinctions were made in regard to gunfire targets:

1. Beach defenses in the immediate landing area.

2. Inland and flank areas containing artillery, reserves, and other permanent defensive installations.

3. Enemy artillery.

4. Enemy observation and command posts and communication and supply axes.

5. Enemy reserves.

Gunfire was classified in the following manner.

1. According to *effect*: neutralizing vs destructive fires. The terms "harassing," "interdicting," "illuminating," and "counter-battery" fires were also used to describe the effect.

2. According to *form*: concentration fires vs point fires. The distinction here was between area and pin-point targets.

3. According to *arrangement*: there were scheduled fires, fires delivered on call, and fires at targets of opportunity.

4. According to *purpose:* preparation, close supporting fires, deep supporting fires and special long range fires against cities, airfields, and heavy permanent installations.

5. According to *method*: indirect vs direct fire.

The characteristics of various types of ammunition, guns, batteries, and ships, had been tested to find out which of each was best suited for the missions required in shore bombardment. Destroyers and 5-inch guns with their high rate of fire and small pattern were found to be particularly suitable for close support. Cruisers and 6-inch guns as well as 5-inch 38 calibers with their high rate, small pattern, and longer range were found to be suitable for deep support missions as well as close. Heavy cruisers with their 8-inch guns and battleships with their main 14-inch and 16-inch batteries were considered best suited for deep support and special long range missions. Normally one close fire support ship was assigned to each battalion. One deep fire support ship was assigned to each regiment, and ordinarily, an additional deep fire support ship was assigned to each division. Other special fire support ships were employed for preparation fires and special missions. There were three methods of fire control:

1. Visual control from observation posts aboard ships for direct fire.

2. Air spotting for deep support indirect fire.

3. Shore observation and control by shore fire control parties with the landing force.

Communication channels were maintained between the fire support group and the landing force and between the firing ships and the landing force.

Coordination with respect to transports, debarkation areas, the boat lanes and ship-to-shore movement, the landing force scheme of maneuver ashore, aviation support, and field artillery fires was achieved with the use of maps, charts and aerial photographs delineated with the M square grid, with the assignment of fire support areas and target areas to fire support groups, with the use of schedules for guns and for targets, with the use of liaison officers and observers, and with extensive signal communications.

Training for War

Amphibious preparedness in the two years prior to Guadalcanal consisted on the one hand of full-scale production of the materiel which had been found suitable for landing operations in the experimental period before 1940 and on the other of training military and naval personnel to use that materiel in accordance with the tactics and techniques, which had also already been developed, in war. The national emergency served to remove most of the peacetime obstructions. Adequate funds were available and allotted to the Navy and Marine Corps, and the materiel and personnel shortages were eliminated as rapidly as possible. The most important aspect of readiness, therefore, was training —a program of intense application and vigorous criticism. The job of training troops in amphibious tactics fell to the Marine Corps.

Fleet Landing Exercise No. 7

The last in the series of Fleet Landing Exercises took place in the Culebra-Vieques area between the 4th and 14th of February 1941. It was a joint exercise involving elements of the 1st U.S. Army Infantry Division and of the 1st Marine Division, the newly organized successor of the 1st Brigade in the Fleet Marine Force. For the purposes of the maneuver, both Army and Marine Corps units were under the command of MajGen Holland M. Smith, CG of the 1st Marine Division. The Brigade under Gen Smith had just completed six months of intense training in Cuba and had been redesignated the 1st Marine Division only four days before the exercise. It was still far from divisional strength. Its three infantry battalions together with two of the Army's placed the landing exercise once again on a brigade basis, and the majority of training was actually of battalion scale.

The Naval forces participating included Battleship Division Five (3 battleships), Cruiser Division Seven (4 cruisers), Destroyer Squadron Two (less a division), and an Air Attack Group including two aircraft carriers, a Naval patrol squadron, and the 1st Marine Aircraft Group, the successor of Aircraft One. For the first time there were assault transports available in a fleet landing exercise, and the transport group consisted of three transport divisions organized as follows: Transport Division One—the *McCawley*, *Wharton*, and *Harry Lee;* Transport Division Two—the United States Army Transports *Hunter Liggett* and *Chateau Thierry;* and Transport Division Three—the destroyer transports *Colhoun*, *Gregory*, and *Little*. The unified command of all participating forces was under RearAdm Ernest J. King.

The purpose of the exercises was to train the Marine and Army divisional units in landing operations, to train the Army and Navy in joint operations and test the efficacy of existing doctrine governing such operations, and to train the commanders involved in joint command and staff procedures. The Army and Marine bat-

talions conducted alternate landing exercises which were valuable in orienting personnel in the new transports and for computing debarkation intervals (i.e. the time necessary to debark a battalion from ship into landing craft) so necessary in planning the ship-to-shore schedule. Although troops, weapons, supplies, and notably landing craft were again short, satisfactory boat training and the practice of supply functions in landing were carried out. The participating units finished the training with an appreciation of the intricate problems involved in joint undertakings—even on a small scale.

First Joint Training Force Exercises

In June 1941, plans were made for the first large-scale amphibious training. MajGen H. M. Smith was given command of the 1st Joint Training Force, a provisional corps organization consisting of the 1st Marine Division, commanded by BrigGen Philip Torrey, the 1st U.S. Infantry Division, commanded by MajGen D. C. Cubbison, and other force troops. The primary mission of this Corps was to prepare a two-divisional expeditionary force for employment under the Commander-in-Chief, Atlantic Fleet, in amphibious assault operations in the Atlantic theater, and to plan continuously for this mission. Emphasis was placed on combat readiness which included materiel procurement, training, and tactical planning. The force, envisioned first as an expeditionary force, became after 9 June 1941 increasingly a training staff. The commander of the 1st Joint Training Force was directed to plan, conduct, coordinate, and supervise all amphibious training in a series of exercises to be conducted at New River, North Carolina, between June and August 1941.

Upon the completion of the training at New River in August, the 1st Joint Training Force was redesignated the Atlantic Amphibious Force. This command was subsequently and variously designated Amphibious Force Atlantic Fleet, Amphibious Corps Atlantic Fleet (there was a naval counterpart of the Amphibious Corps known as the Amphibious Force Atlantic Fleet under the command of RearAdm H. K. Hewitt) and the Amphibious Training Staff. A similar organization was activated on the west coast for employment in the Pacific. The command of the 2nd Joint Training Force was given to MajGen Clayton B. Vogel. This Corps organization consisted of the 2d Marine Division, the 3d U.S. Army Infantry Division, and other force troops. The west coast force was later known as the Amphibious Corps Pacific Fleet. In August of 1942, Gen Vogel and his staff departed for overseas duty and for the command of the I Marine Amphibious Corps in the South Pacific. He was relieved as the CG, Amphibious Corps Pacific Fleet, by MajGen H. M. Smith. A year later in September, 1943, Gen Smith and his staff departed for overseas and for the command of the V Amphibious Corps in the Central Pacific. In April of 1944 the I Marine Amphibious Corps was redesignated the III Amphibious Corps, and together with the V Amphibious Corps under the command of MajGen Harry Schmidt, in the Central Pacific, was placed under the Fleet Marine Force, Pacific, commanded by LtGen H. M. Smith. These two Corps organizations and the later Fleet Marine Force, Pacific, the three chief Marine commands of the war, were responsible for both training and fighting all six Marine Divisions in the Pacific theater and for training the 1st, 3d, 7th and 9th U.S. Army Infantry Divisions as well as other Army units for amphibious operations.

The Fleet Marine Force doctrine was thus spread through both services and all theaters of operations. Adm Hewitt and Adm A. G. Kirk, who had as members of their staffs officers who had formerly served under Gen Smith, applied the doctrine in the landing operations in North Africa, Sicily, Italy, and Southern France. Adm D. E. Barbey, who had been Chief of Staff to the commander of training in the Atlantic Fleet, took the doctrine to the Southwest Pacific Area. The 1st Marine Division, serving under the Army at Cape Gloucester in New Britain, also added its influence in this theater. In the South Pacific the I Marine Amphibious Corps, and in the Central Pacific the V Amphibious Corps, continued to practice and refine the basic tactics.

The training at New River was conducted in two phases. During June and July preliminary training was stressed which included individual and small unit training ashore and battalion and regimental landing exercises, some of which were held at Hilton Head and the rest at Onslow Beach, New River. The landing operations included rubber boat training from destroyer transports. The 1st Marine Division was trained first, and both the 5th and 7th RCTs had completed preliminary training by the middle of July. They were trained in ship-to-shore operations and in surf landings. Special emphasis was placed on the study of debarkation schedules for individual transports carrying battalion landing teams. The 7th Marines were trained first aboard ship for approximately one month in daylight ship-to-shore operations and night debarkations. The destroyer-transport battalion of the 5th Marines underwent similar training during the same period. Several factors acted to handicap the training. There was no headquarters or divisional training area as yet developed at New River. It was necessary to conserve materiel in order to insure a constant state of readiness for active combat operations. The transports required Navy Yard availability periods during the time allotted to training and while

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The Marines in the Pacific War

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another message from the *McCawley* to the CP ashore, but communications reported they could get no answer when they tried to talk back to the flag and ask them what made them think it was a counter-landing. Out in the lagoon near Savo the action intensified instead of dying down. There seemed to be a force to the north and one to the south, with the northern one clearly being worsted, for another ship and another were hit and began to burn while the flame of the first was suddenly quenched.

"Enemy landing on Beach Red right now," reported the *McCawley* and the duty operations officer had to turn out a patrol to go down there and see if it were true, while one battalion was alerted to make a counterattack in case the Japs really were landing. The flag still would answer no questions and it was near dawn before the firing in the north died down, the patrol came back with its negative report, and there was some opportunity to sleep.

IT was still raining in the morning. Under the descending grey curtain two men near the shore saw the cruiser *Chicago* go by with part of her bow missing and a rumor began to spread that we had lost, not won the naval battle. About 0830 *Southard* pulled in with the General and when the staff had a look at his face they knew things must be pretty bad. He called for all unit commanders and they had a conference around a fire under the rain, drinking half portions of coffee out of empty C rations cans. He had undoubtedly hoped to get a reconsideration of the decision to withdraw the ships, especially since Tulagi had even less supplies than Guadal, barely enough food for eight days. There was no hope for any reconsideration now. In fact, there was very little left to withdraw beside the transports, for Crutchley's screening force had been nearly wiped out in the greatest disaster our navy had seen, since there was no element of treachery, only a straight lost battle. *Quincy*, *Vincennes* and *Astoria* were gone, shot through and torpedoed; the Australian *Canberra* was so bad she had to be scuttled; *Chicago* hard hit.

The transport force would leave immediately. The marines were on their own, alone on a hostile shore whose surrounding waters were now in full command of the enemy.

It was probable, nearly certain, that the Japs would try counter-landings. The first step would therefore be to set up at Lunga Point shore defenses as powerful as our means would allow. The supplies would have to be moved away from Beach Red at once (if the Japs had any sense they would try a counter-landing there and set fire to the mountain of stores), brought up to the Lunga Point area, dispersed and put under ground as far as possible. The Engineer Bn would turn to on the unfinished airstrip the enemy had left; air cover from a permanent installation was a necessity. The captured Japanese food would pass under control of the division quartermaster, who would issue on the basis of two meals a day until further supplies could be brought in. It would be dangerous to deplete these stores by using them faster. Meanwhile activity would be limited to vigorous patrols; there was too much work to do to permit any large-scale movement.

Afterward there was a violent controversy as to where the responsibility rested for the Savo Island defeat. The question is one that will probably never be settled in exact terms. It was primarily a fatigue defeat. Capt Riefkohl of *Vincennes*, senior officer present, wrote in his day book "The enemy can reach this position at any time during the mid-watch," and the mid-watch being then approaching, turned into his bunk. It was characteristic of conditions at the moment. All the ships were on Condition 2, which sends half the crews below and many of these crews never reached the guns they were supposed to serve. The guns that did shoot were fired in haste by weary men. They never hit a thing. Records showed later that *Astoria*, always before one of the prize gunnery ships of the fleet, had been firing at an estimated range of 6,000 yards, and at ships estimated moving at 16 knots speed. The actual range was 3,000, the actual Jap speed 26 knots; and only extreme fatigue could have led the *Astoria* men to misinterpret their instruments so.

BUT it was the decision of a tired commander to let them take their rest, in the expectation that the Japanese force would arrive on the schedule our intelligence had set for it—that is at two o'clock in the morning. The tired commander was Adm Crutchley; and nothing is added to the strength of his position by the fact that when he went down the coast for the conference aboard *McCawley*, he left his fleet without special orders in view of the imminent enemy attack and without a deputy commander. His tactical disposition also was about as bad as could be conceived—*Canberra* and *Chicago* south of Savo, the other three cruisers patrolling north of the island, each group out of touch with the other so they were certain to be attacked in detail, as was the case.

But this is not the whole story. There were two destroyers (not enough, but remember two other destroyers had already been put out of action by air attack) patrolling the waters between Savo and Guadalcanal through which the Japanese ran rapidly to make their attack. One

of them at least, *Blue*, had radar. She missed the Japs—maybe due to an inexperienced operator who did not quite know how to pick them up under the loom of the island shore, maybe (again) because the operator was tired out.

There is also a responsibility at the high levels. It would seem that Adm Fletcher received his recon report on the coming of the enemy force early enough to have flown off an air strike, which if it did not turn them back, would at least have left them in less than the first-class fighting condition in which they arrived at the scene; or he might have added some of his own ships to Crutchley's. But he too was a tired man, not with the local tiredness of 72 hours on duty, like the crews of the cruisers, but with the accumulated fatigue of many months of the most arduous command in the war. Ghormley, who could have disposed of all forces, was not afloat but back at his headquarters in Noumea.*

Never mind the responsibility. The salient fact now was that the 1st Marine Division had become engaged in a type of beachhead operation never foreseen in the books—alone, short on supplies, without air or sea support, subject to counterattack. It was not even properly distributed for meeting such an attack. Guadalcanal had 11,145 men all told, instead of something like 15,000 and the group of islands around Tulagi had 6,805 instead of less than 4,000 because so many had been drawn into the battle for Gavutu.

* To get the rest of the record straight on a matter that has caused endless speculation, some of which is likely to creep into the histories, the operation was planned approximately as it was carried out, as a high-speed raid. RearAdm Mikawa of the Imperial Navy was in charge; he had his flag in the heavy cruiser *Chokai*, and had with him, the heavy cruisers *Aoba, Kako, Furutaka* and *Kinugasa*, with the light cruisers *Tenryu* and *Yubari*, and either one or two (the records are not clear) destroyers. In the first action against the *Chicago-Canberra* group, he was thus able to oppose a broadside of 34 8-inch guns, 10 5.5-inch, and 44 torpedo tubes to 17 8-inch guns and 4 torpedo tubes for the Allied ships, the torpedoes being particularly important in a high-speed close night action like this. In the second part of the action he had the same armament against 27 8-inch guns and no torpedoes on our side. He would have preferred to come through in two groups and get a cross fire, but these ships had never worked together before and he adopted a line-ahead formation to avoid accidents.

Chapter 3

COLONEL ICHIKI ARRIVES

LTGEN Haruyoshi Hyakutate,* a proud and happy man, had received from the divine presence the mission of rounding off the dominion of Radiant Peace on its southern flank by the removal of the thorn that had stuck there since the beginning of the war—Port Moresby. His command was designated as the Seventeenth Army in the official documents, but he knew that according to custom it would now be referred to as "The Hyakutate Force" in conversation and the press. The detailed plans for a simultaneous advance across the Owen Stanley mountains and a seaborne landing had already been drawn, the participating units were already in their rehearsal training. His staff had preceded him to Rabaul. He himself had already made his bows before the shrines of the august ancestors and was preparing to fly down from Tokyo when on 8 August the Imperial General Staff recalled him and handed him a file of dispatches.

They were from Rabaul, covering certain other dispatches received from Col Yano of the Kure 3d Special Naval Landing Force, which had been established at Tulagi since May and from Capt Kodoma of the 11th Naval Billeting Unit, that had been working on an airfield at Guadalcanal since July. The Americans had attacked both places in great force the day before and as communications with both officers had since been lost it was probable that the men there had joined the illustrious departed souls.

Undoubtedly this unfortunate occurrence was the fault of the Imperial Navy (we can picture the staff and the general devoting some time to considering the shortcomings of the detested rival service), since as much as two weeks before army intelligence had predicted that there would be an attack on the place. The Navy had replied that there was nothing to worry about, the American advance would be intercepted by a powerful task force. It had not made the interception. Now the place must be retaken at once. It was essential to have the projected air base at the outer corner of the Empire, both as a means of protecting the line of advance toward Moresby and providing for that desirable further advance to New Caledonia and the New Hebrides that would sever the communications between America and her Australian ally. LtGen Hyakutate would accordingly make the recovery of Guadalcanal his mission, and the task of capturing Port Moresby would be taken over by the Eighteenth Army, already in New Britain.

In view of its new purpose the composition of the Seventeenth would be somewhat different than originally planned—a point which requires the explanation that in the Japanese service an army like Hyakutate's consists in the beginning of nothing more than a staff which makes plans. The units that are to compose the formation are drawn from various places and

* See "Hyakutate Meets the Marines," by Capt William H. Whyte in *Gazette* for July-August 1945.

assembled when the operation is about to begin. Estimates from air reconnaissance of the number of transports employed by the Americans, and from the few reports that had gotten through from the attacked positions, placed the number of American at 10,000. Gen Hyakutate was being given forces sufficient to crush such a group —to wit, two full divisions, one of them the famous Sendai 2d Division, one of the very best in the Imperial Service; the other the 38th which had a long record of experience in China; a heavily reinforced brigade (the Kawakuchi) almost a division in size; a shock regiment which had already fought surpassingly well in the Philippines and at Singapore, the Ichiki Detachment; the 8th Tank Regiment with an additional tank company and an Army Group artillery command consisting of no less than 7 artillery regiments with six artillery battalions; a whole host of service units—say not much less than 50,000 men.

GEN Hyakutate was pleased with a generosity which indicated the exalted command's high sense of the importance of his mission; but not quite so pleased with the fact that the units of his army were pretty well scattered throughout the Co-Prosperity Sphere and that it would take some time to assemble them. The Ichiki was in Guam, whither it had gone when the landing on Midway, to which it had been previously assigned, had proved impractical. Most of the Sendai was in Java, the remainder at Davao in the Philippines. The Kawaguchis were in Borneo, the 38th Division in China, one of the antitank artillery battalions as far away as Manchuria, almost nothing directly at hand. This was very regrettable, as the Imperial Staff Manual on fighting Americans said quite clearly that "It can be seen that when they are pressed for time, the American dispositions and especially their organization of fire are not coordinated. Therefore we must not fail to move fast and attack quickly, giving them no time in which to prepare their positions." The staff themselves were quite insistent that matters be pressed home against the American landing force at once, before they had time to get set or to bring reinforcements in.

Gen Hyakutate flew down to Rabaul, where he met the good news that the Imperial Navy had partly redeemed its previous errors by conducting a very successful attack on the American ships off Guadalcanal. The enemy had already admitted the loss of two cruisers (one of them Australian) and damages to three more which, considering how such matters are handled in the departments that make admissions, undoubtedly meant that one or more of the other cruisers were gone. Reports from a coast watcher station on Florida Island, though partly garbled, seemed to make it clear that at least one of the American ships had sunk on the morning after the battle. This must be a very serious loss to their fleet; air reconnaissance had established the fact that their remaining ships had left the Guadalcanal area. The indication was that the Americans on Guadalcanal were in a state of considerable panic and disorganization. Did not the same Imperial Manual lay it down? "The character of the Americans is simple and lacking in tenacity, in their tactics and battle leadership they also lack tenacity and if they meet with one setback, they have a tendency to abandon one plan for another. For this reason we must not fail to hammer at this weakness."

IT was accordingly desirable to press the situation on Guadalcanal by every means and at once. Air attack was the obvious early resource, but unfortunately the squadrons based on Rabaul could operate against Guadalcanal only from the Bougainville fields, and these squadrons had already suffered serious losses in the first two days due to the great fire power of the American fighters. More planes were ordered in and a day and night bombing program was set up, as it was well known that not only do Americans suffer the most violent reactions to air attack, but also their lack of spiritual power makes them peculiarly subject to psychological discouragement when harassed. Forward operational airfields were begun on New Georgia and Kolombangara and an additional supply of laborers was sought to complete them with dispatch. For the present the field in the Shortland Islands was used as a fighter base, the bombers coming in from Rabaul or the expanding installations at Buka.

RearAdm Mikawa called on 11 August to say that the Imperial Navy would be unable to keep surface ships on patrol in the area. The Americans were making great use of submarines and had torpedoed one of his best cruisers, *Kako*, a veteran of the victory off Savo, while she was entering Kavieng: she was the first cruiser lost by the Navy in the south, and he did not care to risk more losses among his slender stock of heavy ships. However, the 7th Submarine Squadron (*K-121, I-122, I-123,* and *Ro-34*) had been ordered down to the area to make vigorous and savage attacks on enemy shipping, and would cooperate in the campaign of harassment by shelling the American positions as well as maintaining an effective blockade. These were backed up by destroyers, which ran down during the night when American planes from carriers in the offing could not operate, and shelled the shore positions at dawn.

The Ichiki Detachment was the most readily available, arriving at Truk on 15 August. The

day before Intelligence had made a new report: "The enemy landing strength seems to be unexpectedly small. Not only are they not yet using the airfield but their activities are not vigorous. The enemy group has suffered losses." The report on which this was based seems to have come from Capt Kodoma on Guadalcanal, with whom communications of a sort had been reestablished; he had beaten off an American attack with severe loss. One of the submarines reported that there was considerable movement of the American small boats in the lagoon and it was considered that the invaders were probably withdrawing to Tulagi to hold out in its more defensive terrain.

It seemed to Gen Hyakutate that in view of the disintegration and loss of spiritual power among the Americans the Ichiki Detachment might be sufficient to regain the Guadalcanal airfield by a sudden and bold maneuver. Col Ichiki agreed. He worked out a plan on the excellent maps Intelligence had provided for landing at Kivu Point and near the mouth of the Ilu River, almost in the area where the Americans themselves had come ashore, with a quick crossing of that stream and a rapid march inland toward the airfield.

The Imperial Navy provided six of its best new destroyers *(Arashi, Hagikaze, Kagero, Tanikaze, Hamakaze, Urakaze)* to carry the advance echelon of 900 storm-troop infantry. A cruiser *(Juntsu)* and another destroyer were assigned as escort for two transports to carry the second echelon, largely mortar and artillery units, with a battalion of special landing force troops, the Yasuda, which the Navy somewhat unexpertedly contributed. All sailed from Truk on 16 August. As the transports were considerably slower than the six destroyers with the first echelon, they would not arrive till several days after, so Col Ichiki informed the troops of that group that they would unfortunately have little to do but the mopping up operation. He was very energetic and ambitious, and had fought Americans before and had come thoroughly to believe in the words of the manual; "Our hand-to-hand fighting has decisive power and is greatly feared by the enemy." It seemed to him that mere numerical and material matters were insignificant in view of the spiritual superiority he would possess.

II

GEN Vandegrift was a soldier who had spent more time studying the subject in the field than from books, a complete denial in person of the statement in the Japanese manual (so carefully studied by Gen Hyakutate) that American tactics are precise but formal. The formal doctrine of modern war in such a position as the one he now occupied called for a defensive around the central area of the airfield. But he had only five battalions of combat infantry; insufficient to man a defense in depth which would keep the enemy advance beyond artillery range of the airstrip. There were more troops on Tulagi, but already on the night of the 11th a submarine had surfaced in the lagoon and plunked a few shells into the position. On the following morning another came up in broad daylight and chased a couple of Higgins boats into Tulagi Harbor under fire. This was followed by the attentions of nocturnal destroyers which would get off a few salvos at daybreak before steaming away up the slot between the double chain of islands—which was to say that the Japanese had full control of the waters. An attempt to move troops across, at least until the Guadalcanal field was complete and could give air cover, would be an invitation to disaster.

On the other hand country so broken and jungle-covered as that on which the beachhead abutted affords peculiarly good opportunities for infiltration attack, something in which the Japs were very adept. The point was convincingly demonstrated on the night when the enemy began to recover a little from his panic and appear as snipers, sometimes behind, sometimes in front, each sniper requiring an organized, time-consuming hunt by as much as a whole squad. One managed to establish himself somewhere in a tangle of trees (for instance) from which he crawled out each night and morning to fire one shot through Col Cates' tent. It was a matter of ten days before they got rid of him and even if nobody was hurt the tent was left looking like some kind of irregular lace.

IN the spirit of the purest empiricism, therefore the General threw all the rules overboard; decided to let his men deal with the snipers individually while his formal positions were established against the chief real danger—a counterlanding. The detail of the position established was that it ran from the highly defensive Tenaru westward to a point just beyond Kukum, where a high hill overlooked the beach and gave a strong point to anchor the left of the line. The beach defenses got a battery of naval 5-inch guns on each side of Lunga Point, a belt of machine gun positions to sweep the shore with 50 calibres, 37 mm, and mortars a little deeper in. The artillery was put into position south of the airfield, where it could fire in every direction. The emplacements themselves were covered on the south, landward side by a line of outposts manned by the Pioneer and Engineer battalions, the regular infantry battalions all being occupied toward the shore. Sandbags and wire were two of the items that did not

get off the supply ships but all the positions could be fairly well bagged in by using the woven straw sacks in which the Jap occupation forces had carried their rice; the plantations were raided for whatever wire there was among them.

The General has left on the record his astonishment that the Japs used neither planes nor ships to burn out the stores on the landing beach, though nearly 40 bombers with full fighter escort came in on the 9th and nearly as many the next day. The enemy did not even bother the endless procession of trucks and amphtracks toiling along the single shore road to bring the supplies down to the point, where they were stored in piles of not over two foot silhouette, a figure that had been worked out as providing maximum security from burst by observing what our own fire during the bombardment had done to the Jap supply dumps.

THE first few days after the Battle of Savo Island were in fact a period of readjustment, personal and technical. The marines, who thought of themselves as assault infantry, began as early as the 9th to become impatient about when our Army men would arrive and what beach they themselves would be called upon to assault next. Out on the perimeter of the position they showed a tendency to be trigger happy, taking pot shots at stray cows and lizards and even coconuts swaying in the tops of trees, transformed by imagination into Jap snipers. The labor was hard, the food poor, the weather abdominable, Japanese planes a constant annoyance—and they groused. Gradually the story of the naval defeat crept down through the ranks in the form of a rumor and was confirmed by the absence of American ships and planes. But these were hand-picked men and particularly among the noncoms and the officers from major up, there was a reserve of experience and savvy. Things quieted down; the shellings by night and bombings by day began to be accepted as routine and the 1st Marine Division was in the war.

Perhaps the key date for the completion of this process was that of the Goettge Patrol—the famous Goettge Patrol, particulars of which filtering back to the home town newspapers through inadequate communications, caused so much excitement that Gen Vandegrift was asked for a special report. The event fell out this way:

The leading weakness of the position was in the direction of Grassy Knoll, too large to bring inside the perimeter, yet dominating the whole left flank down to the mouth of the Lunga. Daily patrols were sent out to keep the mountain secure and they usually found something, more often than not a few of the miserable termite laborers, who would resist feebly before allowing themselves to be shot or would be brought in in the last stages of exhaustion. On 12 August, a naval rating was among them, a sour, surly little man from whom the admission was at last extracted that a group of some consequence had assembled at a native village just beyond the Matanikau River. This checked with the report of another patrol which had been sent out in that direction and opened up with a heavy machine gun across the river, whereupon a large white flag was displayed on a pole within the village.

Goettge, as Intelligence officer, handled both sources of information. It seemed to him that the group at the Matanikau which was so anxious to hoist white flags wanted and could be persuaded to surrender and he proposed taking a patrol down the beach in boats after dark to bring them in.

The General did not like the idea but could not precisely put his finger on any flaw and Goettge, a persistent and very positive Teuton, talked him into granting permission—"Moreover sir, it will be a humanitarian act to save the lives of those laborers besides what information we can get from the prisoners."

The patrol took off in the dark, 26 men and Goettge leading his Jap by means of a big rope around the latter's waist. As it reached the Matanikau shore there was a blaze of fire that killed the Colonel instantly and the patrol was attacked from all sides, only three men getting away by swimming. The "white flag," it developed later, had been the ordinary Japanese battalion battle flag which hung limp on the day seen and concealed the meat ball in the center.

That same day the airstrip reached a length of 2600 feet; the last of the big banyan trees that stood in the way of the approaches came down the day following the bad news about the Gotttge patrol and Martin Clemens came through the lines.

III

THE Britisher said there were a good many scattered Japs back among the hills, starving, disorganized, weaponless, and lacking the power of coordination. The Goettge Patrol had at least located the main fighting concentration around which these might gather at the Matanikau and it seemed likely that if this concentration could be broken up it would stay that way. With the matter of fortifications now as nearly under control as it could be, Gen Vandegrift decided to go for this group and assigned three companies of the 5th Regiment to the task. One was to move high up on the Matanikau, cross and come down the west bank to the

village of the same name, one to work across the sandbar at the river's mouth and the third to move by night in landing boats down to Kokumbona to cut off the retreat of the Japs from Matanikau—a triple encirclement.

The upshot demonstrated what a difference there is between planning and performance in war and also how a good plan which has not seemed to attain all the results desirable nevertheless accomplishes everything necessary. In the first place the company that ascended the river found the going through jungle and cliffs so very tough that after making their crossing they had to bivouac for the night, which caused the operations to be postponed from 18 August, the planned day, to the 19th. In the second place the company at the bar could by no means get across; the Japs had the whole place covered by machine gun fire and pinned the attackers down. The landing-boat company was met by fire from the beach and just as they were going ashore at a slightly different spot a Jap destroyer showed up in the distance and began to shell them.

Yet the operation worked out anyway. The company from upstream found itself facing a ridge with prepared positions on it, but the Japs were mostly down in the direction of the bar and after our forces had taken a handful of casualties they got over the ridge and broke into the village. At the same time a mortar man with a good sense of direction knocked out the most serious of the machine guns that had been holding the bar. The Japs remaining in the village formed up shoulder to shoulder and came out in a spectacular yelling bayonet charge that cost nearly all of them their lives. Those of Kokumbona ran away when their standard bearer was shot down with his meat ball and our people had the whole position with 75 corpses at the cost of 11 casualties.

The result could not be called 100 per cent satisfactory since it was not positions but casualties our forces were seeking and there must be a lot more of those monkeys around. Gen Vandegrift planned another expedition westward to finish the job. It was unnecessary as it turned out—the essential step had been taken, their organization and stores had been destroyed, lack of food and the anopheles mosquito brought their casualty list up to the full tally of the original garrison. But our people did not know this till months and years later and it was not for this reason that the mop up patrol was never undertaken.

To be continued

Marine Corps Reserve Battalions

The Director of Reserve has released the following information regarding the activation of Marine Reserve Battalions:

UNIT	PLACE	DATE OF ACTIVATION	COMMANDING OFFICER	INSPECTOR-INSTRUCTOR
1st Bn	New York, N.Y.	12Aug46	LtCol Lewis N. Samuelson	LtCol Hector R. Migneault
3rd Bn	St. Louis, Mo.	12Aug46	Maj Arthur J. Berk	LtCol Alfred H. Marks
6th Bn	Philadelphia, Pa.	12Aug46	LtCol Charles H. Cox	LtCol Francis X. Beamer
8th Bn	Toledo, Ohio	12Aug46	LtCol Walter A. Churchill	LtCol Edward M. Staab, Jr.
11th Bn	Seattle, Wash.	1Sep46	Maj Robert L. Holderness	LtCol Malcolm O. Donohoo
13th Bn	Los Angeles, Cal.	1Sep46	LtCol Samuel F. Zeiler	LtCol Willard C. Fiske
16th Bn	Indianapolis, Ind.	12Aug46	Maj Nick E. Presecan	LtCol Carey A. Randall
17th Bn	Detroit, Mich.	22Aug46	Maj Henry G. Totzke	LtCol William F. Whitaker
1st 105mm Howitzer Bn	Richmnod, Va.	12Aug46	LtCol Robert N. Fricke	LtCol Richard H. Crockett
2nd 105mm Howitzer Bn	Los Angeles, Cal.	1Sep46	LtCol Alfred V. Jergensen	LtCol Richard W. Wallace

Amphibious Tactics

Continued from page 46

troops were still embarked. There was a complete lack of tank lighters in the preliminary training. There were not enough vessels to carry and train important divisional service and auxiliary units. The limited number of landing craft had to be used by both Army and Marine troops. Destroyer transports had a limited fuel capacity and after four landings had to return to port for refueling.

The Army units of the 1st Infantry Division moved from their base at Camp Devens, Massachusetts, to the New York Port of Embarkation by rail at the end of June and travelled to New River in the converted liners, *West Point, Wakefield, Mt. Vernon,* (formerly the liners *Manhattan, America* and *Washington.*)

All nine battalion landing teams of the 1st Infantry Division (consisting of the 18th, 26th and 16th Infantry Regiments) had completed their preliminary training by 23 July.

The Force landing exercise, which began on 4 August, was the largest of its type ever held in the United States. Over 16,500 officers and men, 300 vehicles and 2200 tons of supplies were put ashore through the surf. Forty-two naval vessels participated in the operation together with four aircraft squadrons of the 1st Marine Air Wing, which were later designated the 11th Marine Air Group. The exercise included assault landing, the seizure of a force beachhead line, and an advance inland of about nine miles following the seizure, and organization of the force beachhead line. Force Headquarters as the controlling agency so influenced the progress of the tactical situation as to necessitate a forced withdrawal of the attacking force. Parachute troops, which had been trained in the Marine Corps since November 1940, were employed both in the attack and during the withdrawal. The withdrawal was executed tactically over a period of three nights, and all troops re-embarked under the cover of darkness. D-Day was 11 August and H-Hour was at 1100.

Landing beaches were designated by letters and 1500 yards of beach were allotted to each assault division. The 1st Infantry Division landed on the left. Air support consisted of one squadron of observation planes, two squadrons of dive bombers and one squadron of fighters. There were five fire support groups consisting of battleships, cruisers, and destroyers. The parachute troops and the destroyer-transport battalion of the 5th Marines were under Force control and conducted a secondary landing to the right of the 1st Marine Division. The 18th Infantry Regiment was initially in Force reserve. The transport area was 18,000 yards from the beach and the line of departure for the landing craft was 4,000 yards offshore. Control vessels and guide planes led the landing craft to the line of departure. No light tanks were landed initially. The following landing craft were available at the beginning of the exercise:

62 30-foot landing boats
173 36-foot landing boats (Higgins)
5 36-foot landing boats with ramp (Higgins)
10 tank lighters constructed by the Bureau of Ships
16 Higgins tank lighters

The Higgins tank lighters and the ramp boats proved the most satisfactory.

The transport vessels engaged in the landing exercise were under the command of Capt R. M. Emmet, and were organized with three personnel transports and one cargo transport per division as follows:

Transport Division One—*Barnett, G.F. Elliott, Neville,* and *Markab.*

Transport Division Two—*McCawley, Heywood, W. P. Biddle,* and *Arcturus.*

Transport Division Three—*West Point, Fuller, Harry Lee,* and *Alchiba.*

Transport Division Four—*Wakefield, Mt. Vernon, Orizaba,* and *Almaack.*

Transport Division Eleven—the fast destroyer transports *Colhoun, Gregory, Little, Manley, Stringham* and *McCain.*

The troops of the training force consisted of the following units:

The 1st Infantry Division, consisting of the 18th, 26th and 16th Infantry Regiments (a total of nine BLTs.)

The 1st Marine Division, consisting of the 5th Marines, less the destroyer-transport battalion (this 1st Bn was later redesignated the 1st Raider Bn) and the 7th Marines. Under Force control, there were the parachute troops and the destroyer transport battalion together with Headquarters and service elements.

The period enroute to the training area was devoted to technical and theoretical training. Transport quartermaster schools were conducted to train officers in combat loading techniques, and daily instruction was given to all officers in the U.S. Navy doctrine on landing operations.

Adm Ernest J. King, Commander-in-Chief, U.S. Atlantic Fleet, was in over-all charge of the joint maneuver and the naval forces involved were under the command of RearAdm Randall Jacobs who was commander of training in the Atlantic Fleet. The Marine Division organization included in addition to the infantry regiments an artillery regiment, consisting of three battalions of 75mm pack howitzers and one battalion of 155mm howitzers, an engineer battalion, a light tank battalion, a special weapons battalion, a scout company, a signal company, an amphibian

tractor battalion, a medical battalion, a service battalion, a guard company and the Division Headquarters company.

The Commanding General of the 1st Infantry Division and members of his staff observed the preliminary phase of training of the Army units, which was under the direct control of BrigGen J. G. Ord.

Four battalion landing teams of the 1st Infantry Division were not combat loaded. The air assault group employed by the force in the landing exercise, consisted of Co A, 2d Parachute Bn of the 1st Marine Division, the mobile landing group, i.e., the destroyer transport battalion of the 1st Bn, 5th Marines. The battalion landing team organization in effect in both the Infantry and Marine Divisions included the following elements:

The basic infantry battalion reinforced by:
1. A battery of artillery
2. A tank platoon
3. Antiaircraft and machine gun platoons
4. An antitank platoon
5. A shore party detachment
6. A motor transport section.

Air support during the landing included observation planes for photographic and reconnaissance missions, utility planes for troop carrying, dive bombers for direct support, and fighters for air cover. A command plane was employed to report on front lines and the progress of the troops.

The experience gained in the New River exercises were extremely valuable and showed the need for frequent full-scale rehearsals to test the efficiency of equipment, organization, staff functioning and training. All elements involved in the maneuver gained experience in landing operations. The doctrine proved sound. Realism was the keynote of all training. However, the maneuver was not two-sided, and, because of the requirement for the Navy to maintain a neutrality patrol in the Atlantic, gunfire support groups were limited in number and all firing was simulated.

The major deficiencies noted in the exercise were an imperfect task organization, lack of equipment and personnel, and lack of sufficient transports. The organization of the force was inadequate. The 1st Infantry Division required streamlining for amphibious employment. The 1st Marine Division lacked a third infantry regiment to bring it to full strength. Nowhere in the organization was there a unit assigned the mission of clearing underwater obstacles which might oppose the landing of small craft.

Lack of equipment and personnel was seriously felt in many units and particularly in the field of communications. The newly organized 1st Marine Aircraft Wing needed both personnel and equipment to bring it to full strength in order that it might fulfill its mission of supporting the 1st Marine Division. Service troops also suffered shortages; there were not enough shore party and beach party personnel to unload the ships and supply the troops ashore. Artillery and engineer units were also short of personnel. A deficiency in landing craft, tanks, and antitank guns was severely felt as well as a lack of motor transportation ashore. There were not enough vehicles to move equipment from the beach to the troops nor were there sufficient tank lighters of the proper design. It was recommended upon completion of the exercise that tank carrying ships similar to the British tank assault craft be produced to eliminate the existing handicap of normal tactical doctrine resulting from the lack of tanks and heavy equipment in the initial phases of the landing.

In addition to the lack of sufficient transports, the smaller APAs were not equipped to carry a full battalion landing team or the necessary motor transportation and heavy equipment.

Several shortcomings in training were also painfully noticeable. One of the major deficiencies in all phases of training was communication The personnel of both the Army and Navy were not experienced in the prescribed joint Army Navy procedure. Additional instruction and practice was also obviously necessary in supply-training, coordination of supporting arms, and joint staff procedure.

In spite of these difficulties and in spite of the fact that transports remained for five hours in the transport area before disembarking troops, the ship-to-shore operations were well executed. Many lessons were learned which were to prove valuable in subsequent training and in combat.

Joint Army-Navy Exercise

After the New River exercises training and equipping of both the 1st Marine Division and the 1st Infantry Division was intensified in the light of the lessons learned on maneuvers, and a a second joint maneuver was conducted between 12 and 19 January, 1942. Since close liaison in amphibious tactics was maintained at all times between the British and the U.S. Navy, these exercises were observed by British officers from Combined Operations Headquarters.

Commander of training in the Atlantic Fleet, RearAdm F. L. Reichmuth, was the naval officer in charge of training and troops were again under the comand of MajGen H. M. Smith. On 22 December, the 1st Infantry Division was again placed under the control of the Commanding General of the Amphibious Force Atlantic Fleet. The 1st Marine Parachute Bn and the 1st Bn, 5th Marines (the 1st Raider Bn), were assigned to the control of the Army division. The exercises were characteristized by a lack of air and naval gunfire support groups so that it was more in the nature of a ship-to-shore practice than a full scale

coordinated amphibious assault. This condition resulted from our recent entrance into the war and the need to employ most of the Navy's combatant ships in active operation.

12 January was D-Day for the maneuvers and H-Hour was 1100. Five battalion landing teams were landed in the assault. The landing was a two-sided maneuver in which elements of the 1st Infantry Division; reinforced by the 1st Marine Raider Bn, executed landings against an area defended by the 16th Infantry Regiment of the 1st Infantry Division, reinforced by the 4th Bn of the 11th Marine Artillery Regiment (155mm Howitzers) and Co A of the 1st Marine Tank Bn (light tanks). Bad weather conditions made the landing difficult. It involved a landing, advance inland and seizure of a division beachhead line, after which, through controlled interjections in the tactical situation, a withdrawal was conducted over the beach and reembarkation was executed. Seventeen naval vessels and one squadron of aircraft participated. The forces engaged in the landing showed a marked improvement in training status over their condition during the previous summer.

Battalion and Regimental Landing Exercises

On 15 February 1942, the 1st Infantry Division was detached from the Ampihbious Force, Atlantic Fleet, and was replaced by the 9th Infantry Division. This Army unit was assigned to the Force in a status of continued availability for joint training. On 20 February 1942 the Commander in Chief of the U.S. Fleet directed that both the fleets, Atlantic and Pacific, should include an amphibious force with a flag officer of the Navy as force commander to consist of three groups as follows:

1. Covering forces, as assigned, under the command of a naval officer.
2. Transports, combat and other, also under the command of a naval officer.
3. An Amphibious Corps, under the command of a general officer, preferably of the Marine Corps.

The Amphibious Corps, Atlantic Fleet, was accordingly organized on 3 March 1942 under command of MajGen H. M. Smith. The Amphibious Force, Atlantic Fleet, was placed under the command of RearAdm H. K. Hewitt.

During the months that followed, battalion and regimental landing exercises were conducted on Solomons Island in the Chesapeake Bay. The units trained included all battalions of the 5th Marine Regiment, the 1st Bn of the 1st Marine Regiment, and the 1st Raider Bn of the 1st Marine Division and all regiments of the 9th Infantry Division. Regimental landing exercises undertook to provide a maximum of realism and a minimum of simulation in the coordinated functioning of all elements of the regimental combat team.

These exercises, preceded by 10 days of preliminary battalion training, included the following:

1. A communication exercise in which all communication elements of the regiment, its reinforcing units, and naval vessels participated.
2. A two-sided umpired day landing of the regimental combat team, including the debarkation of vehicles and supplies sufficient for five days. This was a four-day exercise which stressed supplies and vehicles. This exercise required three days, including reembarkation.
3. A two-sided night landing the the regimental combat team, including the debarkation of plies and vehicles. This exercise required three days, including reembarkation.

All landing exercises, included the employment of limited air support.

Other special training in connection with amphibious operations was also conducted during the period July 1941 to July 1942. This included the training of shore fire control parties, naval gunfire spotters, transport quartermasters, air observers and spotters, amphibious reconnaissance elements and amphibious communications.

Shore fire control party instruction included the training of Navy, Marine and Army officers in the duties of the shore fire control parties, and covered the characteristics and capabilities of naval batteries and the technique of naval gunfire against shore targets. The naval technique was used for spotting artillery fire. Transport loading schools covered instruction in the fundamentals of combat unit loading and emphasized the paramount importance of supporting tactical plans with parallel tactical loading. Instruction was given in the preparation of embarkation plans and was followed by practical exercises in the actual loading of transports for training exercises. Communication schools provided theoretical and practical instruction in radio code and message center operation, typewriting, and the fundamentals of joint Army-Navy communication procedure. One transport division had been made available on each coast in March of 1942 so that at least piecemeal amphibious training could be conducted. The transport divisions assigned, however, included ships which were concurrently assigned availability for overhaul in Navy yards.

Simultaneous technical experiments were continued during this period in various phases of amphibious warfare, and newly developed special items of equipment were tested. Training of reconnaissance elements as amphibious scouts was conducted from submarines in rubber boats. Training and tests patterned on those conducted on the East Coast were undertaken by the Amphibious Corps, Pacific Fleet, in the San Diego Area, and close liaison was maintained between both commands to assure a common level of training and development.

To Be Continued

military digest

A monthly digest of important articles from leading military periodicals

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Choose Your Weapons, America!

Capt Melvin M. Johnson, Jr.

IN A RELATIVELY pure democracy such as ours the American people must determine at least what our fundamental defense policy shall be. Accordingly, let us analyze objectively what might be needed by the United States in the unfortunate event of another war.

All can agree that weapons as such are absolutely essential to fight a war, whether on the offense or on the defense. The prime function of any weapon of war is to incapacitate or kill the enemy personnel; to render untenable enemy positions, facilities, and installations; and to render inoperative or to destroy enemy equipment, weapons, and vehicles.

The prime function of protective measures or agents is to neutralize or reduce the effect of a given weapon. A counterweapon signifies one which is active rather than passive. Originally the tank was a counterweapon to the machine gun, just as later the tank destroyer was a counterweapon to the tank.

Atomic explosive is a weapon and as such may readily be applied to the variety of military purposes. All possibilities for the military applications of atomic explosive must be considered, not just the more obvious and briefly demonstrated employment of this devastating development as a one-way bomb to destroy cities or to annihilate nations.

However, the only positive and ultimate method of avoiding the final destruction of our country by enemy "robatoms" is to capture his launching sites and destroy his facilities. That necessarily involves the landing of trained armed men and equipment to overwhelm the enemy on the ground.

From the technical military point of view it is undeniably ridiculous to propose that today's war should be fought with yesterday's weapons and techniques. Today's war cannot be fought with tomorrow's weapons, nor tomorrow's war with the day-after-tomorrow's weapons. You cannot fight today's war with muzzle-loaders, but neither can you fight it with experimental blueprints.

Arguments may rage for centuries hence as to the real influence of the atom bomb on Japan's surrender. The fact remains that the first bomb was dropped on Japan by a U. S. Army airplane which took off from an island base maintained, supplied, and protected by the U. S. Navy, and previously captured from the tenacious Japanese by the U. S. Marine Corps, supported by naval air and sea forces.

The solemn statement is frequently made of late that there is no defense against the atomic bomb. Obviously there are certain defensive measures which may be employed to reduce the effectiveness of any weapon. Infantrymen crawl—they do not stand patiently to be shot by enemy machine gun fire. They dig foxholes and wear steel helmets. That reduces casualties.

However, there are always counterweapons. There have always been counterweapons. There always will be. Hence there will be counter-atom weapons. One of these will be atomic explosive itself! Weapons always work both ways, provided you have them, enough of them, and adequate expert personnel to operate them.

As a weapon, the atom bomb is either projected from an air vehicle, as on 7 August 1945, or by a rocket or robot bomb launched from a base on land or from a vehicle on the sea. If it is carried by an airplane, then there are already counter-aircraft weapons, and there will be even more deadly and effective ones. Antiaircraft rockets are already reaching many miles into the air. The proximity fuze gives antiaircraft artillery a new significance, apart from the possible combination of this fuze with atomic explosive.

The further development of atomic weapons indicates that the smaller nations will either remain on the sideline or be virtually obliterated. Atomic bombardment delivered by a large continental power against any one of the numerous small nations, especially small island nations, would have but one ending.

Next consider the atomic attack of a large powerful nation against a reasonably large but weak one, such as Germany against France in May-June 1940. Assume the Germans had superatom bombs available. Probably after the annihilation of one city France would have surrendered at once to save her resources.

On the other hand, Germany wanted the use of French resources, facilities, industries, and ports. The German objectives would have been defeated by the atomic annihilation of France.

In our own broad-scale counter-offensive against Japan, however, our objective was purely and simply complete unconditional surrender of the enemy. As of 7 August 1945, Japan was still left with a powerful defensive land army and nothing else—no air force and no navy. Japan not only had no atomic bombs but absolutely no means of launching such bombs against our homeland.

Any nation or group of nations seeking control of the world or even of any major part of either hemisphere must first completely eliminate the United States. Germany has twice learned this lesson.

We are certain to be invaded first of all, not by the boundless blasts of atomic bombs and rockets, but by the subtle-strangling, power-paralyzing tentacles of a pseudo-pious propaganda.

After we have been enfeebled by this prolonged but patient process and reduced to a thoroughly confused state of self-suspicion and international uncertainty, the initial military attack will be launched. The weapons may be chiefly atomic artillery, aimed primarily at our industrial centers and calculated to complete our final moral disintegration in the hope that we will overthrow what remains of our government and sue for immediate peace. If we do, substantial occupation by enemy land armies will be a major condition. Our entire population, economy, and resources will be under complete enemy control, aided by a no doubt shocking but hardly inconceivable abundance of our supposedly loyal citizens.

On the obvious assumption that we want none of this to befall our country, what might be done to prevent such a defeat and to eliminate the aggressor who attempts it? What types of weapons must be used?

First of all, when the propaganda attack starts (or perhaps more accurately, now that the propaganda attack has started), we must remember that words are weapons. Moreover, we must maintain an intelligence service of superlative efficiency.

Next we must continuously develop effective new weapons and counterweapons. Next we must emphatically retain and maintain outlying naval bases around the world from which we can at once launch powerful counterattacks against any enemy bombardment.

We cannot afford and dare not endure war's holocaust upon our homeland. This means that from our advanced naval bases and from the outer fringes of our continent we must launch counter-atomic artillery fires which can be followed up by intensive landings in force on the enemy homeland.

The developments of science have brought the four corners of the world closer together. The implications of such technological trends are unmistakable in the art of warfare.

The broad problems and the general solutions are fundamentally equivalent to those of earlier centuries. Destruction, after all, is not the primary objective of war but merely an incidental means. The ultimate and final objective is control.

In any future war the air forces must be based on the ground. Ships must operate from shores whether island or mainland. Armies must operate from and on the ground. Atomic explosive in its multifold applications will increase the armament potential and effectiveness of the ground forces, naval forces, and air forces, but we shall still have the land, the sea, and the air.

Any vociferous protagonist of any single "weapon" or of any single branch of any so-called armed service claiming to possess the sole solution of warfare and urging various schemes of over-all command which make possible the ultimate emasculation of our ground, sea, air, or scientific forces, is selling our country a dangerous, unsound, and suicidal bill of goods.

Think clearly and carefully, then, America, and choose your weapons intelligently for the security of our homeland and for the strict and just enforcement of world peace, law, and order. ★

Marine Corps Gazette • October, 1946

Airborne Operations in the Mediterranean

MajGen James M. Gavin, USA

RIGHT AFTER the Battle of Sicily the 82d Division returned to North Africa, arriving there on 20 August 1943. There it received reinforcements, and equipped and prepared itself for the coming invasion of Italy. Plans were made, and then there were changes, and more plans and changes. Yet all of that was typical of what usually happens in the planning stages of an airborne operation.

The student of future airborne operations has to realize how normal these shifts and changes are for any airborne operation that has to be planned and staged in a short period of time.

The final plan for the amphibious invasion of Italy contained the following major elements: (1) the main assault by the U. S. Fifth Army with the mission of capturing Naples; (2) two attacks by the British Eighth Army, one against Calabria and another against Taranto; (3) a naval diversionary attack in the Gulf of Gaeta. This was to be known as Operation Avalanche.

To carry out its mission the Fifth Army planned to invade Italy at the Gulf of Salerno, fight northwestward, capture Naples, and continue the fight northward until all of Italy was overrun. The 82d Airborne Division was made available to the commander of the Fifth Army, Gen Mark Clark, for this operation.

The first mission presented to the 82d called for the seizure by an airborne task force of the towns of Nocera and Sarno at the exists to the passes leading northwest from Salerno. The purpose was to cover the debouchement of the Fifth Army from the Salerno area. The division commander gave missions to the regimental commanders at the division command post at Trapani, Sicily, about August 1.

The staffs made hurried studies to select drop zones for the parachutists and landing zones for the gliders. Our airborne assault was to be supported by an amphibious assault by troops from the infantry division landing in the Amalfi-Maiori area on the Sorrento peninsula. The airborne operation was planned at extreme fighter range, and this, coupled with the ground conditions, the ack-ack, and the possibilities of hostile fighter interception, as well as the real vulnerability of the C-47s to any kind of an attack, ruled out anything but a night airborne show. It was decided, however, on August 12 to throw this whole plan out and use the 82d Airborne farther inland.

On August 18 Gen Ridgway (Division Commander) was told that a new decision had been reached to conduct an airborne operation on the Volturno River, northwest of Naples and some forty miles from the nearest beach landings in Salerno. Initially, this new plan gave the 82d Airborne Division the mission of destroying all crossings of the Volturno itself against all enemy attempts to cross. The airborne force was to be given immediate support by an amphibious assault against beaches just to the south of the mouth of the Volturno, and contact between the 82d and the nearest unit landing at Salerno, the British 46th Division, was to be expected, at the latest, in five days. Staff planning for the new operation, known as Giant I, was undertaken without delay at all staff levels concerned. But shortly the Navy announced that the beaches selected for the amphibious assault were unsuitable so this phase was dropped from the plan. Without this landing of a force from the sea to back up our airborne task force, the problem of resupply for the airborne forces now became a most critical factor.

At the very least, the airborne task force would need regular supplies for a period of five days—until contact was made between our force and units of the British 46th Division which would have landed at Salerno. Any serious failure in the resupply of the 82d Division task force could only mean its loss. This is true of any airborne force that drops into territory strongly held by an alert and able enemy.

A final briefing for all higher comanders was held at the Fifth Army forward command post on August 26. Each commander in turn outlined his plan to carry out the mission assigned him by the Commanding General of the Fifth Army. The destruction of all crossings over the Volturno from above Capua to the sea and the denial of all Volturno crossing sites to the Germans was a satisfying, if not most pleasant mission to study and prepare for. But the job proved much more difficult of realization on analysis than the higher staffs had first thought. It couldn't be overcome unless the North African Air Force was willing to take an almost certain daily loss of transports or bombers, whichever would be used. Air Marshal Tedder and Gen Clark decided in the end that the possible gain from our Volturno mission would not be worth the probable losses. The mission was called off and thus ended Giant I. Thirteen days remained until D-day.

On the evening of September 2, the division commander and several staff officers were called to the Headquarters 15th Army Group at Syracusa, Sicily, to receive the first information of a new mission. The new job was to be the seizure of Rome, one of the most interesting airborne plans of the war, and a plan that will be discussed pro and con for many years to come. This operation was known as Giant II and called for placing the strongest airborne task force the available aircraft could carry on and near three airfields immediately east and northeast of Rome. Because of the range there was no possibility of fighter support. The date for Giant II was the night of September 8-9. The mission was to secure Rome by operating in conjunction with Italian forces in the Rome area. This mission posed some new and extremely interesting airborne problems. Again the operation was beyond friendly fighter range. and since enemy fighters were very active, the operation was limited to hours of darkness. Under the conditions existing in the Rome area and the time limitations these conditions imposed upon us, the forces that could be air-landed in a single night would be relatively small. The airfields were small ones without runways. Effective cooperation of the Italian ground forces was especially doubtful. It had to be accepted that the success of the mission was wholly contingent on full cooperation from the Italian military forces as would insure the neutralization of German antiaircraft defenses along the planned flight route, the security of the landing fields or drop zones to be used, and the furnishing of essential supplies, and in addition full military cooperation of these Italian forces against German troops. This made quite a bill of goods. The agreement reached between Allied authorities and the Italians had also agreed to clear the Tiber River so that there could be amphibious support for the airborne landings. But the fact was that the Italians at Syracusa had simply promised everything—about ten times as much as they could possibly have done. And it became fully evident that there were no guarantees of the needed support at the airfields where the regiments of the 82d were to land, so the plans were changed almost at the last minute. Minutes before the take-off, word came from higher authority that the mission had been postponed for twenty-four hours. Despite the many plans and the days and nights of staff work, the airborne troops found themselves sitting and waiting on their takeoff airdromes. Patience is an essential attribute of a good airborne trooper.

The next morning after word had been received that the 82d would not join the attack, the Fifth Army hit the Salerno beaches and began one of the most bitterly contested amphibious operations of the war. Driving inland despite fierce well-prepared German opposition. the VI Corps was able to seize the dominating ridgeline extnding from Altavilla to Roccadaspide along the west bank of the Calore River by the evening of September 11. The Germans struck back in a double-pincers movement on the VI Corps' left and finally drove that flank back to the Albanella Ridge. This created what those who write communiques like to call a fluid situation between our VI Corps and the British X Corps on its left. On September 12 it looked as if the German attack might drive clean through to the beach. This set the stage for the next participation of the 82d Airborne Division in battle.

That afternoon about 1330, a tired, begrimed pilot landed at Licata Field in Sicily in a fighter from the Salerno beachhead. He had an urgent message for the division commander and refused to give it to anyone else. The message was a personal letter from Gen Mark Clark, Fifth Army Commander. Specifically, he wanted one regimental combat team dropped inside the beachhead south of the Sele River that night, another dropped in the same location the following night, and a separate battalion dropped on the mountain village of Avellino, far behind the German lines, on the night of September 14.

All plans were complete eight hours after the request for reinforcements came from Gen Clark, and the troops were loaded with their complete equipment, rations, and ammunition, and the C-47s were rolling down the runways on the way. By shortly after midnight the 504th Parachute Infantry, with Company C of the 307th Airborne Engineers attached, had made its landing and assembled near Paestum, and by daylight it was in the front lines, fresh, eager, and looking for a fight. Not long afterwards it attacked from Albanella and recaptured Altavilla Ridge in close combat that was intensely bitter.

The next night the 505th Parachute Infantry Regiment, with Company B of the 307th Airborne Engineers attached, landed by parachute on the same Paestum drop zone and was in place at daylight on the right of the 504th, holding the beachhead to the coast at Agripoli. Troops of the 505th were the first to contact the British Eighth Army in its advance northward.

The accurate way in which this landing went off on schedule increased immeasurably the confidence of the troopers in their own commanders and staffs and in the troop carrier command. The airborne troops had a decisive influence on the final outcome of the Salerno operation as a whole. By airborne action, reserves over two hundred miles from the scene of combat, separated by unfriendly seas and land, were committed to decisive action within twelve hours of receipt of orders.

But in contrast to the soundly conducted Salerno operation was the ill-fated battalion operation of Avellino. Avellino is a typical small Italian town nestled in a deep mountain pass about twenty miles from the Salerno beaches. It lies at the junction of several important roads to the north toward which German reserves were likely to come from farther south where hard-pressed German divisions were withdrawing under pressure of the British Eighth Army, and to Salerno and Battipaglia. There were, however, no suitable drop zones in the area; what few flat cleared areas the photographs showed were too small, and the mountains were so high that it was impossible to jump at proper low altitudes. What happened to the battalion is that troopers were actually scattered over an area of more than a hundred square miles. Of the 640 troopers who jumped approximately 510 eventually filtered back to the Allied lines. It is hard to arrive at a true evaluation of the Avellino operation. It is doubtful that it had any decisive bearing on the outcome of the Battle of Salerno.

From the Salerno and Avellino operation on, the Allied airborne troops in Italy fought as ground forces. There were no more jumps until they were used in France, although a number of plans were made for their use by air as the Fifth and Eighth Armies fought steadily up the Italian boot. But none of these further plans was put into effect.

A few sound principles of the use of airborne troops had begun to emerge from the uncertainties that had enshrouded their tactical employment from their beginnings. Clearly, they must be employed in mass and not in small packets. They must be used at the point where their action would be decisive, and not scattered about for local tactical gains. Their use had to be most carefully coordinated with all other participating forces—ground, air, and naval. Equally, the combined employment of all these forces had to be given initial direction and coordination by the highest headquarters in a theater of operations.

By early 1944 Allied troop carrier and airborne troops had the know-how of flying and fighting formations of 300 to 400 parachute ships. But on the horizon larger masses of aircraft loomed—troop carrier formations of 1200 and 1500 transports with thousands of gliders of different types and capacities. Properly committed, and exploited, the airborne troops looked like the answer to Hitler's challenge that he awaited the Allied onslaught with pleasure, confident that it would be turned back utterly destroyed and decisively defeated for all time. The Allied airborne fledgelings had learned their lessons. The battles of Normandy showed every promise of being without precedent not merely in airborne history but in the military history of mankind. ★

Employment of Radar by XV Corps Artillery

BrigGen Edward S. Ott, USA

RECOGNITION OF THE VALUE of radar as a means of locating targets for field artillery came to the XV Corps as early as 1 March 1944, when the Corps Commander, LtGen Wade H. Haislip, and I were en route from Anzio to Naples aboard an American destroyer.

The skipper invited us to make a tour of the ship during which we visited the radar station. There I noticed several closely grouped echoes on the horizon and asked about them. The commander said they were reflections from objects upon a small island which we were passing. It then occurred to me that it might be possible for a radar to pick up targets on a battlefield. This possibility lingered in mind despite discouragement from some sources and finally, early in October 1944, BrigGen James F. Brittingham, Artillery Officer of the Seventh Army, furnished the XV Corps Artillery with an SCR-584 for ground use.

Our tests progressed in actual battle under various conditions of weather and terrain from October 1944, until April 1945. They primarily concerned the employment of radar for general field artillery use, rather than for countermortar missions. The SCR-584 was used to provide battlefield intelligence, to locate moving ground targets for corps artillery, and to adjust friendly artillery fire. In February 1945, nine per cent of the Corps Field Artillery missions were based on radar.

By careful pre-planning we had the radar sets where they could check upon the rearward movements of the Germans and we capitalized on this form of intelligence with some amazing results, including intelligence missions around 30,000 yards (although normal radar intelligence extended from our front lines out to about 25,000 yards).

The radar sets of the XV Corps were kept in operation until the end of the war. When we started, the Corps front was along the La Vezouze River near Luneville, France. The last actual mission, fired as a result of radar intelligence, was at the crossing of the Danube River in the Donauworth area, on 26 April 1945.

The results of using radar in a ground role were checked from many sources, especially from prisoners of war and from examination of targets which had been overrun. On one occasion, the Sixth Army Group Commander, Gen Devers, observed the destruction of a battalion of German artillery along a road running northeast from Zweibrucken, effected by a 240-mm howitzer and based on radar information. Many other individuals from the supported divisions and from corps artillery units made observations of the results. Most of these were not recorded in my diary and verification is impracticable now except by a search through voluminous after-action reports. On one occasion, I took steps to have two radars in widely separated locations observe a given portion of a road. The picking up and evaluation of targets by the two sets completely confirmed the reliability of radar in the ground role.

IN late October and early November, on the La Vezouze Front, a German main supply road passed through a village named Leintrey which was located on a prominent hill. Time and again the radar picked up movements on the road at or near this village and we fired on the targets with a gun, a battery, or a battalion. After we captured Leintrey, French civilians told an officer of the 173d F. A. Group that the Germans had searched every house in the village in an effort to find a concealed radio set which they thought was giving the Americans information of movements on the road.

In the Gros-Rederchering area, the radar picked up what appeared to be a considerable tank concentration moving down the road towards the 44th Inf. Division. This target was plastered by both divisional and corps artillery weapons. Prisoners of war later stated that this was a movement of tanks in preparation for a counterattack, but that the artillery fire had been so destructive the plan had to be cancelled.

On a semi-dark night the radar picked up a patrol in "No Man's Land" and reported it to the infantry regiment on that front. It was ascertained at the regiment that this was a friendly patrol (whose dispatch had not been reported to the radar). The regiment requested that the patrol's progress be tracked. In the course of tracking, radar picked up what appeared to be a stalking German patrol. Alerted by radio, the friendly patrol leader attacked the enemy patrol and captured some prisoners, in addition to inflicting other casualties.

In the Sarreguemines area, the radar picked up what was evaluated as a battalion forming to attack the 63d Infantry Division. Heavy artillery fire was placed on this concentration, and it was learned later from prisoners of war that a counterattack had been forming but that the artillery fire had been so devastating that it was never launched. In the same area, photographic interpretation showed that the Germans were using a road leading north from Sarreguemines extensively during the night. A radar was moved to take this road under observation. The first night many "juicy targets" were attacked as a result of the radar; the second night the targets were fewer; and the third night they were almost nonexistent. A few days later another photograph, taken after snow had fallen, showed that this road was no longer being used by the Germans.

AS the XV Corps was preparing to cross the Rhine River, and was in a "silence policy" period of artillery fire, one of the radars picked up some extensive movement of what appeared to be armor on a road well back from the river and on the extreme left of the Corps zone of action. The officer at the radar set correctly deduced that this was American armor, since it was in much greater quantity than any German armored movement which had been noted for some time, and that it was probably from an American element of Gen Patton's Army which had forced a crossing earlier. This radar intelligence resulted in getting the Third Army units moved back into bounds so that our artillery support and our attack of enemy targets between the river and road on which the armor had been moving would not result in damage to friendly troops.

The emergence of radar in the ground role from a "screwball experimental dream" to an accepted, dependable, and much desired intelligence agency was amazingly rapid and widespread in the divisions of the XV Corps. So great was the need for an agency that could see the enemy during periods of low visibility and complete darkness; so urgent was the necessity to find a means with which to warn the front-line infantryman that something was approaching him from "No Man's Land"; and so quickly were factual results from radar disseminated, that almost overnight there was a clamor from the divisions for radar coverage on their fronts. From all sides I was offered assistance in laying communications to my radar sets. ★

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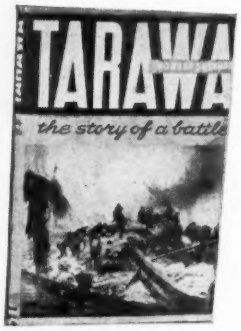

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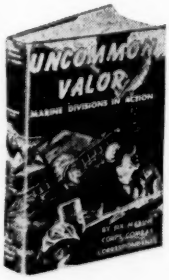

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NEW YORK TIMES MAGAZINE, 25 August '46

Japan a Year After

Two stages of the occupation have succeeded beyond hopes; the third is in the lap of the gods.

By Lindesay Parrott

THE aims of the occupation fall naturally into three sections. First, it was the task of our troops to demobilize and disarm the Japanese Army and Navy and destroy the nation's ability to make war. Secondly, it was necessary to clear away the civil barriers to the establishment of the type of regime that the Allies wished to see in Japan. The third and most difficult aim was the development of a cooperative process with a Japanese framework from which a new democratic system might grow.

The first stage has now been completed; the Japanese Navy, what was left of it, is no more and 5,852,000 Japanese soldiers have been stripped of their weapons. A tremendous store of arms has been destroyed.

The second phase of the occupation has progressed, but not quite as far. The power of the Emperor has been drastically limited and when the new constitution is ratified he will be reduced to "a symbol of the state." However, Hirohito still retains the reverence and gratitude of the vast majority of his people who see him as the man who ended the war when the militarists would have fought on.

The Zaibatsu—the great family concentrations of capital which abetted the war machine—have been frozen and rendered powerless, with such holding companies as Mitsui, Mitsubishi, Sumitomo, and Yasuda earmarked for dissolution. Forty-five great "colonization banks" through which Japan exploited occupied territories have been closed for good.

The state has been ordered to stop all support of the national Shinto religion which reached into the life of 75,000,000 Japanese compelling at least lip service to the thesis that the Emperor was a divine being and that Japan was destined to dominate the world.

The third phase of the occupation is still ahead. The economic situation in Japan is as bad as it is bound to be in any nation which decided to forego butter and fire its national wealth away out of guns. Economic collapse means chaos and chaos in Japan today could mean a new war in the Pacific when the time came, just as chaos in Germany eventually produced a Hitler.

What has been the Japanese reaction to the first year of occupation? The immediate fact is that there has been no resistance. It is obvious to every thinking Japanese that collaboration is the only game today. The faster the occupation ends, the faster will come the time when all factions will have the opportunity to advance their own political causes.

Occupation authorities have discovered no signs of an organized underground. Japan does have a small group of liberals who admire the system we offer them and will try to make it work. However, another group—its size it is impossible to estimate—is embittered and full of hate, waiting to re-establish the old feudalist regime. Still another group seeks revolution in the Russian style.

The basic problem in Japan today was expressed recently by her premier when he said that Japan in the postwar world must support 70 per cent of her former populations in 56 per cent of her former territoory without the natural resources which now must be imported from abroad and paid for with manufactures.